A BUSINESS MODEL FOR SMMEs
IN THE TELECOMMUNICATIONS SECTOR IN THE
BORDER REGION

BY

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DECLARATION:

In accordance with Rule G4.6.3, I hereby declare that the above-mentioned treatise is my own work and that it has not previously been submitted for assessment to another University or for another qualification.

SM OBERHOLZER

DATE: 18 November, 2007
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ABSTRACT

The telecommunications landscape in South Africa is changing. The monopolistic nature of the sector, previously dominated by Telkom has come to an end. Telecommunications companies, in particular SMMEs face the opportunity as well as challenges to find new ways of doing business successfully in this changing landscape.

The research problem states a business model for SMMEs in the telecommunications sector. The author’s research is aimed to assist SMMEs in this sector to reposition them and be successful.

The literature review focused on the local telecommunications market in South Africa, a comparisons between telecommunications markets in relation to other countries with similarities in their telecoms sectors as well as the opportunities and challenges SMMEs face in the market space.

Regulation and new technologies pose opportunities but also potential dangers for business owners to conduct business. Traditionally, a typical resell model would be fully dependant on the way the monopolist determined the shape and structures of small companies, but the research indicated innovation and creativity will be the drivers to be successful today.

The research design was done by using a survey questionnaire to telecoms end users. The literature review and a survey aimed at the consumer market were done and the findings highlights focus areas where SMMEs need to direct their energy and resources into to establish the business model.

With reference to both the literature review and the empirical findings, the business model can be formulated and supported by a strong entrepreneurial person or group of people. In addition, the recommended business-level strategy is an integrated and coordinated set of commitments and actions the SMMEs will use to gain a competitive advantage by exploiting core competencies in specific telecoms markets.
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CHAPTER 1
INTRODUCTION, PROBLEM STATEMENT

1.1 INTRODUCTION
South Africa has been facing the double challenge of integrating into global markets as a competitive economy and of overcoming the internal problems created which is still constantly reinforced by the previous regime. To realise the objective of economic growth through competitiveness on the one hand and employment generation and income distribution on the other, the small business sector in the country assumes a critical role. In order to be conducive to economic growth and employment creation, small business development has played a bigger role in national industrial policies (IFLA Journal, 2007).

The president, Mr. Thabo Mbeki recently signed the new Electronic Communications Act (ECA). The bill is geared to liberate the ICT market and make services affordable to all South Africans. Convergence is a key focus point in delivering services to the nation.

The new act aims to promote convergence in the broadcasting, broadcasting signal distribution and telecommunications sectors and to provide the legal framework for convergence of these sectors (Government Gazette, 18 April 2006: Electronic Communications Act, 2005):

- to make new provision for the regulation of electronic communications services;
- electronic communications network services and broadcasting services;
- to provide for the granting of new licences and new social obligations;
- to provide for the control of the radio frequency spectrum to provide for the continued existence of the Universal Service Agency and the Universal Service Fund.

The convergence of information science, information technology and business administration, along with the combined effect of globalisation and ubiquitous networked
computing, has resulted in the advent of the e-enterprise, the emergence of new trading models, the creation of a business environment of incomparable complexity, as well as a new generation of multi-disciplinary professionals.


Based on a literature review, Osterwalder, Pigneur and Tucci (2005) define a business model as a conceptual tool that contains a set of elements and their relationships and allows expressing the business logic of a specific firm. It is a description of the value a company offers to one or several segments of customers and of the architecture of the firm and its network of partners for creating, marketing, and delivering this value and relationship capital, to generate profitable and sustainable revenue streams (Osterwalder et al. 2005).

1.2. PROBLEM STATEMENT

The primary objective of this research was to establish a business model for SMMEs in the Telecommunications sector in the Border region.

The Telecommunications sector in South Africa is rapidly changing with the introduction of competition and a new telecommunications act. For years the country was monopolised by Telkom, who determined the outcomes of how telecommunication business models were to be designed and the way small business owners conducted their business activities. Factors like high telephony and bandwidth costs and Telkom's monopoly on local telecoms infrastructure, as well as skills shortages, have stunted the competitiveness of SMMEs.
According to Gabszewicz (1983) a monopolist sells too little an amount of the good he produces, and at a much higher price, compared with the amount and the price which would be optimal from the viewpoint of consumers. Also, when the monopolist sells several variants of the same product, the range of variants he decides to supply generally differs from the range which would maximise consumers welfare, sometimes he offers too many variants, sometimes too few of them (Gabszewicz, 1983). Salvatore (2003:340) mentions that as opposed to a perfectly competitive firm, a monopolist can earn profits in the long run because entry into the industry is essentially blocked (Salvatore, Dominick 2003).

Telkom’s monopoly legally ended in 2002, but the Independent Communications Authority of South Africa (ICASA), the regulator of telecommunications and the broadcasting sectors, took substantial time to award a license to the Second Network Operator (SNO), NeoTel on the 9th of December 2005 (http://www.neotel.co.za/neotel/view/neotel/en/page127). SMMEs operating in the Telecommunications sector will be exposed to bigger role players in the telecommunications industry which will require a new business model to survive and compete in this sector.

SMMEs are to conform to telecommunications licensing according to the ECA. Minister of Communications, Ivy Matsepe-Casaburri, has issued directives in respect of different categories of the telecommunications service providers in terms of the Regulation of Interception of Communications and Provision of Communication-related Information Act, 2002 (http://www.doc.gov.za/Media_Stmtt_281105.htm). SMMEs will face the challenge of positioning themselves in the appropriate category of service provision. The categories can pose threats to the SMMEs as they might need to cut back in current operations if the functions performed do not comply with the licensing categories specified in the ECA.

In addition to legal conformance and the changes in external forces, SMMEs have to deal with new technologies that appear daily in the marketplace and open a large variety of decision making in terms of technologies and the features thereof as well as legislative requirements set by the ECA.
1.2.1 SUB PROBLEMS

In order to narrow the scope on a business model, the following factors will have to be taken into consideration:

- Contextualise the key challenges in telecommunication sector in S.A.;
- What are key features of successful models in other countries;
- Analyse similar case studies in other countries;
- Local Externalities influencing SMMEs includes:
  - Assess the impact of external environment;
  - Licensing and ICASA compliance;
  - Compliance to the ECA;
  - Fast technological changes;
  - Competition;
  - Products and services;
  - Adapting new technologies such as Voice Over IP;
- Identify the key internal environmental aspects. Factors which pose potential problems in establishing a business model for SMMEs are:
  - Leadership;
  - Lack of resources;
  - Access to finance;

1.3 PRELIMINARY LITERATURE REVIEW

Small, Medium and Micro Enterprises (SMMEs) are recognised as an important component in a country’s development, particularly through their ability to create additional employment opportunities and promote technical innovation (IFLA Journal, 2007). These enterprises are often relatively labour intensive and are located within the communities they serve.

This review will include an overview of how world bodies and governments envisaged assistance to SMMEs in their promotion of information communications technology for development in Africa. Also included will be international experiences on approaches adapted to assisting SMMEs and the outcomes thereof. This section will be concluded
by looking at what has worked with SMMEs assistance in other industries (IFLA Journal, 2007).

At the Fifty Seventh Session of the General Assembly of the United Nations (2001) a resolution was adopted urging the Economic Commission for Africa to play a more active role in the promotion of new information and communication technologies and e-commerce and in the development of African SMMEs. Justification for necessity of the resolution was owing to the lack of opportunity to promote SMMEs’ products worldwide, and to an inability to access market information related to their business area, their penetration and competitiveness in the regional and global markets being limited. The advancement in the Internet and the convergence between telecommunications and computing would provide great potential for SMMEs to promote their goods globally on the Internet and also to access a tremendous amount of information on marketplaces and joint investment ventures. The development and use of web portals would also enable SMMEs to increase their visibility and help them promote their products and services.

The World Summit on the Information Society (2003) committed to a long list of action items for the role that governments and stakeholders need to play in the promotion of ICTs for development. Among other actions is a series of related measures which include incubator schemes, venture capital investments (national and international), government investment funds (including micro-finance for SMMEs), and investment promotion strategies.

In South Africa, the government has through legislation facilitated the entry of SMMEs into the telecommunications industry. The law allows for the provision, by SMMEs, of telecommunications services including Voice over Internet Protocol (VoIP) for the specific purpose of advancing universal access in geographical areas that are under serviced. Such services they can provide using their own or leased infrastructure (Government Gazette, 18 April 2006).

In the United States, SMMEs in the telecommunications sector were able to start up by obtaining significant credit from their equipment suppliers on terms that they could never
get from a bank, even though they had no earnings or credit histories. These loans were in fact a discount on the price of the equipment. This was the practice by big telecommunications companies like Alcatel, Cisco, Ericsson, Lucent, Motorola, Nokia, Nortel, Qualcomm, and Siemens. By the end of 2000, they had at about $25.6 billion worth of loans to their vendors on their books. These credit arrangements have in most cases failed because the telecommunications SMMEs have had difficulties in making their payments (Raymond E. Miles, Grant Miles and Charles C. Snow, 2005).

An article in Communications Today (2003) reports of a United Kingdom flagship business scheme that was launched there in 2003 with the intention to assist about 90 SMMEs in raising investment funding of more than $22 million over a period of three to five years. The project covered a vast range of technology SMMEs, including telecommunications and optical fibers, as well as computing companies.

Research done by Andrie Schoombee (2000) on how well South African banks serve SMMEs, reveals a need for some form of government intervention. The intervention advocated is in the form of some incentives to banks to try and entice them into serving this market segment. The need for incentives is in recognition of why the banks do not want to serve SMMEs, namely because of the low or non-profitability of such business. If the government cannot succeed in enticing banks to lend to SMMEs through the use of some incentives, it may be necessary for government to take direct policy measures. Experience worldwide has shown that this is also not the answer. These measures do not ensure sustainable access to credit for SMMEs and also result in financial repression, which inhibits economic growth and development (Schoombee, 2000).

This review has not been able to find any South African material which examines appropriate business models for SMMEs in the telecommunications sector. Christian M. Rogerson (2000) furnishes an analysis of the challenges and support needs of SMMEs in the road construction industry in South Africa. The particular case study examined the building of the N4 toll road which was the anchor project for the Maputo Development Corridor. As this case investigates the progress and workings of South Africa’s targeted procurement approach towards stimulating SMMEs in road construction, it may well lament on how to answer one of the research questions: to what extent will a business
model for SMMEs in the telecommunications sector be able to bring small business, and particularly historically disadvantaged groups, into a sector from which they have been excluded?

The white paper on Telecommunications states that Government and state parastatals can also play a major role in promoting SMMEs by:

- revising procurement policies to allocate some percentage of procurement of goods and services from emerging SMMEs with due consultations with the affected workforces;
- the formation of joint ventures with SMMEs that would assist in developing their capacities facilitating the necessary training for emerging entrepreneurs;
- encouraging the equipment supply industry to support the development of SMMEs through joint ventures and with equity participation in emerging SMMEs (http://www.polity.org.za/html/govdocs/white_papers/telewp.html?rebookmark=10, 2006).

The national strategy also aims to enhance the capacity of small business to comply with the demands facing South Africa’s modernising economy and the challenges of increasing international competition (http://www.logos-net.net/ilo/150_base/en/topic_n/t10_sa.htm#Table%201, 2006). Table 1.1 lists the key objectives of the national small business strategy.

**Table 1.1: Key objectives of the national small-business strategy**

- Create an enabling environment for small enterprises
- Facilitate greater education of income, wealth and earning opportunities
- Address the legacy of apartheid-based disempowerment of black business
- Support the advancement of women in all business sectors
- Create long-term jobs
- Stimulate sector-focused economic growth
- Strengthen cohesion between small enterprises
• Level the playing fields between bigger and small playing fields between bigger and small business as well as between rural and urban businesses
• Prepare small businesses to comply with the challenges of an internationally competitive economy


1.4 RESEARCH DESIGN AND METHODOLOGY

Secondary data was taken the form of a review of research reports in order to provide an understanding of what the industry will look like if SMMEs play a bigger role in South Africa in the telecommunications sector. This aided the researcher in determining if the research findings have commonality with other research studies in other fields and to provide a greater understanding on the subject.

Primary data was collected using a positivistic (quantitative) research paradigm. This took the form of a survey. A questionnaire was compiled by the researcher and contained close ended questions.

The availability of data on the subject was limited and in addition an exploratory research technique was used, the aim being to gather in depth data on the problem. Exploratory research allowed the researcher to acquire an in depth development of concepts, developed operational definitions and improved the final research design.

Techniques employed were:

• Surveys. Surveys was sent to end users;
• Secondary Data Analysis. Trade literature reviewed and analysed;
• Electronic Interviews. Open ended questions were emailed to respondents.

The next stage after the exploratory research conducted was to determine whether benefits of additional information would be worth the cost of further research on the subject.
1.5 DEFINITION OF KEY CONCEPTS AND ASSUMPTIONS

“ECA” means Electronic Communications Act, 2005 (Act No. 36 of 2005)

“Gini coefficient” is a measure of inequality of a distribution and is between 0 and 1. It is a key figure for the disequilibrium of income and capital. In the year 2006 South Africa had a Gini of $G = 0.59$.

“ICASA” means Independent Communications Authority of South Africa.

1.5.1 SMALL, MEDIUM AND MICRO ENTERPRISES (SMMEs)

According to the National Small Business Act 102 of 1996, the SMMEs are defined as separate and distinct business entities in any sector of the economy managed by one owner or more. These include cooperative enterprises and non-governmental organisations as well as branches or subsidiaries if any (Rwigema and Venter. 2004:314). The South African government has defined the SMME sector according to various factors namely, ownership, employment size and formality resulting in a classification of businesses as shown in Table 1.2 below (Rogerson, 1999):

The Department of Trade and Industry defines an SMME as a ‘privately and independently or co-operatively owned and managed business and must not form part of an enterprise which exceeds the quantitative criteria referred to in Table 1.2, but may have more than one branch where the entity must comply with any two of the listed criteria.
Table 1.2: Quantitative Criteria for SMMEs

<table>
<thead>
<tr>
<th>Size</th>
<th>TOTAL ANNUAL TURNOVER</th>
<th>TOTAL ASSET VALUE (fixed property excluded)</th>
<th>TOTAL NUMBER OF EMPLOYEES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than</td>
<td>Less than</td>
<td>Less than</td>
<td>Less than</td>
</tr>
<tr>
<td>Medium</td>
<td>R25.0 million</td>
<td>R5.0 million</td>
<td>51 – 200</td>
</tr>
<tr>
<td>Small</td>
<td>R5.0 million</td>
<td>R1.0 million</td>
<td>5 – 50</td>
</tr>
<tr>
<td>Micro</td>
<td>R1.25 million</td>
<td>R0.25 million</td>
<td>1 – 4</td>
</tr>
</tbody>
</table>

Source: Rogerson (1999)

For the purpose of this research, ‘SMME’ will be used as the description for Small, Medium and Micro enterprises.

“Telecoms” means Telecommunications

“VANS” means Value added Network Supplier

1.5.2 DISTINCTION BETWEEN ENTREPRENEUR AND SMALL BUSINESS OWNER

For the purposes of this study, both entrepreneurs and small business owner-managers will be considered, as finance is required in both ventures. An understanding of the definition of entrepreneurship highlights the importance of the processes that entrepreneurs will follow to achieve their goals. Wickham (1998:24) believes that, although entrepreneurial ventures and small business pursue the same objectives, there are some fundamental differences between the two as shown in the table below.
### Table 1.3 differences between entrepreneurs and small business owner

<table>
<thead>
<tr>
<th>Entrepreneurs</th>
<th>Small business owners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are innovative and are creators of new products, processes and technology</td>
<td>Operate with established products</td>
</tr>
<tr>
<td>Ventures have high growth potential</td>
<td>Normally operate in an established market</td>
</tr>
<tr>
<td>Ventures are concerned with growth targets, market development and positioning</td>
<td>Are concerned with sales and profits</td>
</tr>
</tbody>
</table>


### 1.6 DELIMITATION OF RESEARCH

The research will focus on a SMME business model in the South African context in the Border region. The business sector is limited to SMMEs in the Telecommunications sector. Sample data and surveys were conducted within the borders of South Africa and in particular in the Border region.

The SMME business model will be defined within the three telecoms categories as described in the ECA and will solely relate to Telecommunications sections within the Act.

Comparisons will be made with SMMEs in other developing countries with similar conditions as South Africa in the Telecommunication sectors.
### 1.7 LIST OF CHAPTERS

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CHAPTER TWO

TELECOMMUNICATIONS IN SOUTH AFRICA

2.1 INTRODUCTION
Chapter 2 will discuss telecommunication issues within the South African context. In order to address some of the sub problems state in Chapter 1, one needs to identify the challenges, problems and prospects in the telecommunications environment within South Africa.

Telecommunications is defined in Newton’s Telecom Dictionary (2002) as the art and science of communicating over a distance by telephone, telegraph and radio; or the transmission, reception and the switching of signals, such as electrical or optical, by wire, optical fibre and electromagnetic (through-the-air) means.

The definition holds two concepts. The first is the act of communicating, in other words, imparting and receiving information. The second is the means of communicating, in other words, communications infrastructure.

The Constitution of the Republic of South Africa Act, 108 of 1996 guarantees the right to communicate. Section 16(1) states everyone has the right to freedom of expression, which includes:

- Freedom to receive or impart information or ideas;
- The right to freedom of expression has been interpreted to mean not only the right to speak and the right to hear speech but also the right to have access to the means by which to communicate (http://en.wikipedia.org/wiki/Free_speech, 2005).

The Electronic Communications Act of South Africa (ECA), which provides for the primary regulation of the telecommunications industry in South Africa, defines telecommunications more narrowly as the means by which to communicate, as follow: the emission, transmission or reception of a signal from one point to another by means...
of electricity, magnetism, radio or other electromagnetic waves, or any other agency of a like nature, whether with or without the aid of tangible conductors.

The telecommunications sector in South Africa continues to be characterised by growth, but growth accompanied by relatively high retail prices, super-profits, job losses, licensing delays and minimal new foreign investment in the sector. The overall growth of the sector in the last year which rose to a total revenue of R 74 billion and an increased GDP contribution of around six percent which masks serious underlying problems in the sector (Stats SA, 2003; ITU, 2003:188).

These problems include the failure to extend affordable fixed-line services to the overwhelming majority of the population, and the negative impact on the economy of the high costs of telecommunications services – costs that have influenced inflation and reduced national economic growth. While telecommunications penetration continues to be extended through mobile telephony, the total household penetration figure of 47 percent in 2002 remained marginally lower than the average of 49 percent for other lower-middle-income countries in the same period (Stats SA, 2003; ITU, 2003:189).

Despite the slowdown in losses of fixed-line subscribers from the incumbent Telkom’s network over the past years, residential fixed-line penetration in particular continues to be poor by international standards, at 25,1 per 100 households in 2002, compared with an average of 49,8 per 100 households among lower-middle-income countries internationally (ITU, 2003: 189). This low residential fixed-line penetration has implications not only for voice-service penetration but also for Internet penetration and the creation of the critical mass necessary for the positive “network effects” associated with economic growth and development to come into play.

2.2 SOUTH AFRICA’S DEMOGRAPHICS SUMMARY
Table 2.1 indicates National indicators relevant to the research topic. South Africans spend more on telecommunications as a percentage of GDP than most developed European nations (World Bank Report 2006).
Table 2.1: National indicators

<table>
<thead>
<tr>
<th>Population – Mid Year 2007 estimates</th>
<th>48.8 million speaking 11 official languages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population Eastern Cape</td>
<td>14.4 %</td>
</tr>
<tr>
<td>Life expectance</td>
<td>49 years for males, 52 years for females</td>
</tr>
<tr>
<td>Active Internet users</td>
<td>10.3 % (30 times larger than any other in Africa Country)</td>
</tr>
<tr>
<td>Telecommunications relation to GDP</td>
<td>4.5 % of GDP</td>
</tr>
</tbody>
</table>


The Eastern Cape ranges from the inland Great Karoo area to the varied coastline on the Indian Ocean, where the cities of Port Elizabeth and East London are found. This province offers a great variety of scenery, including majestic mountain ranges, lush forests and valleys, the semi-desert area of the Karoo, a rugged coastline and vast unspoilt beaches. The Border region forms part of this area and includes the greater East London area, Bisho and King Williams Town.

2.3 GOVERNMENT INITIATIVES

The opening up of the emergent policy space in South Africa has contributed to the adoption of innovative social regulatory solutions to the demand for services. It does so by describing the social regulatory initiatives that have been implemented during the period 1994–2002, the start of the legislative reform undertaken by the first post-apartheid government and concludes with the end of the period of exclusive monopoly in fixed line services. The seven initiatives described are (Telematics and Informatics, 2004:49-66):

- licence obligations imposed on operators;
- establishing a convergence regulator;
- creating a specialist universal service agency;
- rolling out telecentres;
• issuing licences in under-serviced areas;
• establishing phone shops and other telecom related projects and programs.

Government then launched initiatives on increasing telephone connectivity and extending participation to new players. While the imposing of licence obligations contributed most to increasing connectivity, the licensing of new operators by the convergence regulator contributed most to the opening up of the market to new participants (*Telematics and Informatics*, 2004:49-66).

The initiatives that had contributed most to opening up the space and to increasing connectivity, also contributed to its biggest constraints. Firstly, the imposing of licence conditions did result in the rollout of 2.61 million fixed lines, yet at the same time 1.5 million people were disconnected or terminated their service, largely due to their inability to afford the service. Secondly, the awarding of the third cellular licence to CellC was preceded by delays and controversy that undermined foreign and local investor confidence and prejudiced the new startup that had to sit on the sidelines and watch the incumbent mobile duopoly garner millions of subscriptions. While some initiatives contributed to opening the market to new players (e.g. Universal Service Agency, rolling out telecentres), it did not necessarily translate into an increase in access to ICT infrastructures (*Telematics and Informatics*, 2004:49-66).

**2.4 INFRACO**

Public enterprises minister Alec Erwin said at a media briefing that Infraco, the fibre optic communications network that used to be owned by Transnet and Eskom, would drive down the cost of telecommunications in South Africa. Firstly, it would be a state-owned industry and therefore be able to set its own prices. These would become reference prices, or a price base, for other broadband prices. Secondly, it would be able eventually to give private corporations access to its network, which would provide competition for Sentech’s wireless technology and also drive down prices. Infraco's proposed fibre optic lines will link South Africa’s major cities and run under the sea along the Africa’s West Coast (Business Report, 13 Feb 2007).
Infraco is owned by a subsidiary of Eskom, but it is expected that legislation to be introduced to separate it from the utility and make it a fully state-owned entity. Infraco grew out of the development of the second national operator and has a series of obligations to fulfill to the licensed second network operator Neotel, the consortium that has become Telkom’s rival (Business Report, 13 Feb 2007).

2.5 SOUTH AFRICA’S TELECOMMUNICATIONS STRUCTURE

Figure 2.1 illustrates the composition of the South African Telecommunications structure.

Figure 2.1: SA Telecommunications structure

Source: BMI Report 2003
2.6 THE ELECTRONIC COMMUNICATIONS ACT 2005
President Thabo Mbeki has signed the Electronic Communications Act (EC Act), formerly the Convergence Bill. A notice that he has assented to the Act was published in Government Gazette number 28743. The Act provides a regulatory framework for the convergence of broadcasting, broadcasting signal distribution and the telecommunications sectors. The Act also repeals the Telecommunications Act of 1996, the Independent Broadcasting Authority Act and portions of the Broadcasting Act. However, there are other legal processes that have to take place before it becomes operational law (Balancing Act, 2005).

2.7 MAJOR ROLE PLAYERS IN TELECOMMUNICATION
It is already known that the South African telecommunications sector had traditionally been dominated a monopoly player and with the addition to Telkom, Cellular providers entered the same market in a different segment space. Salvatore describes this as an Oligopoly, where only a few players compete in a market segment (Salvatore, 2004). The composition of the market sector is relevant to the research project. The author seeks to understand what impact this market structure poses to SMMEs as stated in the sub problems.

Figure 2.2: Telecommunication sector market share by network operator

Source: Quantec, 2004
2.8 TELKOM
Telkom Pty (Ltd) enjoyed its fixed line monopoly the Telecommunications market for years. In March 2003 Telkom was valued at R 15, 6 billion; considerably lower than its R 100 billion valuation a few years previously, before the steep fall in the industry's stock market value. At R 28 a share, Telkom earned R 3, 9 billion for government. This was less than half of the R 10 billion the government had stated in 2002 as its target for revenues from major privatisations (Quantec, 2004).

In June of 2004, Thintana Communications, the incumbent’s initial strategic investor, announced its intention to reduce its stake in Telkom from 30 percent to 15,1 percent, through the selling of over 80 million of its ordinary shares. The remaining 14,9 percent held by Thintana (SBC of the U.S. and Telekom Malaysia) is open to the highest bidder. A consortium led by former Director-General of the Department of Communications (DOC), Andile Ngcaba and former TransNet director Gloria Serobe, with support from Presidential spokesperson Smuts Ngonyama, was the preferred bidder (Weidemann in IT-Web, 2004). The consortium was not initially able to access the necessary funding, which led to the Public Investment Commission (PIC) stepping in as interim funders until suitable financial partners have been found.

2.9 SECOND NETWORK OPERATOR (SNO)
Two major investment opportunities in the country’s telecommunications sector have been severely undermined, not only by the downturn in the global economy and the global telecommunications sector, but also by the negative perceptions of political and regulatory risk arising from controversies around the licensing process for the third cellular operator Cell C (which was finally licenced in 2001 after a protracted, controversial process). The SNO has been delayed for over two years due to the failure to find a suitable strategic equity partner (SEP). Finding a SEP has been undermined by the mandatory shareholding of the company (Weidemann in IT-Web, 2004).

The state set aside 30 percent of the licence for Transtel and Eskom Telecommunications, the communications arms of the country’s transport and power parastatals. A further 19 percent of the licence was set aside for empowerment
purposes and was awarded to Nexus by ICASA in 2003. The remaining 51 percent was to go to a strategic equity partners but the regulator rejected all the applicants, in two rounds of licensing, on the grounds that the bidders failed to meet the minimum thresholds set by the Minister (Weidemann in IT-Web, 2004).

The Ministry of Communications took over the licensing process and made several changes to the strategic equity arrangements, after the consortium failed to agree on the management and control structures for the company. The SNO License was granted in the fourth quarter of 2005 to a private consortium (Eskom, Transnet / Transtel, Nexus Connexion, TATA Group / VSNL, CommuniTel, Two Consortium) trading as Neotel.

2.10 VALUE ADDED NETWORK SERVICES (VANS)
There are currently 344 VANS (Value added Network Supplier) Licensees in South Africa. The majority of these license holders are categorised as SMMEs. VANS providers currently focus their business activities around Internet access, content provision and mobile services.

Despite being dominated by Telkom, the Value-Added Network Services (VANS) market in South Africa is both large and varied, with a market value of roughly R 3,3 billion in 2004, not including Telkom’s operations in this segment. Telkom’s 2004 Annual Report states that its data business revenues were R 4,1 billion, putting the total value of the South African data market (most of it VANS provision) at about R 7,4 billion which is equal to the size of the total telecommunications market in 1992 when the process of liberalisation began. While Telkom’s data business line item in its Annual Report may not correlate exactly with its VANS activities, a 58 percent share of the revenues generated in the data services market would indicate that its value-added services market share is significant and increasing faster than the share of the independent VANS operators (Alison Gillwald and Stephen Esselaar, 2004).

The VANS segment, critical to the development of a knowledge economy and enabling innovation, is highly dependent on affordable bandwidth to flourish. Affordable bandwidth, when combined with high-level skills, can generate significant value-added
applications in Call Centres for example, which create significant job opportunities (Gillwald et al, 2004).

2.11 UNDER-SERVICED AREA LICENCEES (USALS)

The focus on the SNO licensing process has been at the expense of the awarding of the planned initial ten Under-Serviced Area Licences (USALs), which are intended to provide services to areas with less than five percent teledensity. SMME companies saw this as a vehicle to build a business case in the telecommunications sector. Although bidders in eight of the first round of ten demarcated areas were granted licences by the Minister in June 2001 only four of the operators received unconditional licences from the regulator ICASA in November the same year, with a further three USAL’s received licences conditional on clarification of ownership issues(African Ventures ,2002).

Initially unable to tap into the Universal Service Fund (USF), these licensees received a promised grant of R 5 million upon licensing from the Universal Service Agency (USA) and commitments of interest-free loans of up to R10 million from the USA over the first three years The basic capital needs of a single local USAL network are estimated to be around R 20 million, based on an international average cost per fixed-line of US$ 1000. This figure could be reduced significantly if USALs were able to share satellite platforms and software for services and billing (African Ventures, 2002).

Even with the belated funding arrangements put in place by the USA, the business cases of the USALs may still be difficult to turn into success, not just by the delays in getting to market, but also by ICASA’s withdrawal of the proposed asymmetrical termination rate regime for USALs. The termination rate is the charge to other networks to terminate traffic that originates on the other network. An independent consultant proposed to ICASA at its public hearings on USALs that without a termination rate of as much as 50-70 percent and the ability to share facilities, the USAL licencees would not be viable and would therefore be unlikely to attract sufficient investment (African Ventures ,2002).

The USALs’ business case was further weakened by the Ministerial policy directives of September 2004, which come into effect February 1, 2005. Much-needed as these
policy interventions are by the general industry and the economy, they remove the few remaining advantages the USALs had by allowing mobile operators and VANS to self-provide networks. Some USALs had built their revenue projections on being able to offer alternative network infrastructure -- to the mobile operators and VANS – in underserviced areas. Other USALs had built their business cases on the provisioning of public pay telephones, a service that has also been deregulated by the September policy directives.

2.12 EMPLOYMENT AND REMUNERATION
Employment in the communications sector (telecommunications and postal), after rising from about 85 000 jobs in the early 1980’s to peak at about 110 000 in 1990, has steadily declined, falling below the 80 000 level in 2003. The rate of employment in the telecommunications sector sowed down and became static in the early to mid-1990s, but fell sharply between 1997 and 1999 (Quantec, 2004: SIC 75). Although the drop reflects job losses in the entire industry, it does also coincide with the privatisation of Telkom and the cutting of over 23 000 Telkom jobs during that period (Gillwald, 2004).

The sharp decline in telecommunications job numbers that followed the modest rise between 1998 and 2002 reflects the continued efficiencies in the sector and the absence of anticipated new entrants. The number of fixed lines per employee at Telkom went from 83 in 1998 to 149 in 2004. Efficiencies inherent in mobile technology mean that mobile networks are far less labour intensive than fixed networks, and South Africa’s mobile providers operated on average with 2 200 lines per employee in 2004 (Gillwald, 2004).

2.13 THE ROLE OF ICTS AND TELECOMMUNICATIONS IN DEVELOPMENT
Telecommunication contributes towards the development of various countries that share information with each other in direct and indirect ways. There is much that countries can share with others, including technological expertise, software development, hardware manufacturing, educational aspects and projects, cultural artifacts and activities such as
art and other exhibitions, television soaps and conferences for development and tourism issues.

Geographically, South Africa constitutes developed urban and underdeveloped rural areas which need basic development in terms of the development of educational and health facilities, sanitation and roads, basic housing, creation of employment opportunities, telecommunications and reduction of poverty. Government, through legislation and regulation are forced to address the needs of both areas and to eliminate the digital divide.

2.14 DIRECT EFFECTS OF TELECOMMUNICATIONS ON ECONOMIC DEVELOPMENT

In addition to its direct contribution to end-users, the telecommunication networks and their use generate significant spillover effects in other sectors of the economy. Once the telecommunication infrastructure is built in any nation, it is available to all sectors of the economy and has good public characteristics. By possessing the characteristics of infrastructure capital, telecommunication networks generate substantial externalities both on the supply side and on the demand side.

Investments in telecommunication infrastructure have effects similar to those of improved or increased innovation. Many of the benefits of telecommunication investments are not appropriated by the telecom sector, e.g. the lowering of transaction costs, the ability to search widely or the ability to control a greater pan of production and organisational activities. Telecommunications lower the fixed and variable costs of information acquisition and an expansion of telecommunications generates cost saving externalities in other markets (Nandi, 2002).

2.15 COORDINATION OF ECONOMIC ACTIVITY

By allowing easy acquisition and transfer of information among economic units and by facilitating rapid two-way communications over distance, telecommunications help in the coordination of economic activity (Nandi, 2002). In business, this mechanism improves the capability of managers to communicate with each other and helps them to make
better decisions and business plans. Telecommunications help to remove, to a great extent, the physical constraint on organisational communications in all sectors of the economy. Recently, telecommunications has become a primary contributing factor towards the development of increasingly complex large organisations and globalisation of different corporations.

The efficiency of household operations also improves as telecommunications allow better coordination of their different activities. At the aggregate economy level, telecommunications helps social planners to coordinate different economic activities at reduced communications costs. However, it is very difficult to quantify the benefits to management and coordination activities as they affect the quality of managerial and administrative decision-making, which in turn improves economic performance.

**2.16 RURAL AND URBAN DEVELOPMENT**

There is a large gap in income between the most advanced countries and the developing countries in the world (Mbarika, 2002). However, the discrepancy in output, income and standard of living among different regions is more acute domestically in less developed countries than between developed and developing countries. In many rural communities, the middleman plays a key role as sole buyer of products, monopoly supplier of manufactured goods and credit suppliers to farmers. The free flow of information between rural and urban markets can inform rural suppliers of the demand and prices of their products and services in different markets throughout the economy (Mbarika, 2002).

Using telecommunications, rural agents can consult with agronomists and vegetarians in distant locations to provide necessary information to farmers for improving their crop yields and livestock productions. All these activities help the rural people to increase their productivity and income. The availability of telecommunications in rural areas can come from major urban areas, creating more jobs opportunities and income in rural areas. Thus, the development of rural telecommunications can help to overcome many obstacles to rural development (Mbarika, 2002).
2.17 REDUCTION OF REGIONAL INFRASTRUCTURE AND DEVELOPMENT GAP
One of the reasons for the persistent gap between rural and urban areas in any country is the telecommunications infrastructure gap, which results in the information gap between rural and urban areas. Rural areas have little or no telecommunications infrastructure (e.g. in terms of telephones, facsimile/fax, computers, printers and the Internet, except in telecentres or community phone shops where available), when compared with the urban areas. This difference in telecommunications infrastructure is called the digital divide. Telecommunications infrastructure should then be developed in rural areas in order to reduce this digital divide (Mbarika, 2002).

2.18 TELECOMMUNICATIONS AS AN INPUT TO THE ECONOMIC PRODUCTION PROCESS
Telecommunication services in any business entity are to some extent a low cost substitute for information handling labour and have very low substitutability with other traditional inputs such as capital, production, labour and materials (Nandi, 2002). However, telecommunication services help the industries more by increasing the productivity of each of these traditional inputs and thus increasing the efficiency of the entire production process. Telecommunications service is highly complementary with the use of information technology products. Telecommunications help with the retrieval and transportation of information, and allow efficient processing and exchange of information among different computers situated in distant locations (Nandi, 2002).

2.19 MARKET EFFICIENCY EFFECT
By facilitating information flow and by enhancing the communication between buyers and sellers, telecommunications increases the efficiency of market operations. Nandi (2002) mentions that when a telecommunication infrastructure exists, in equilibrium, idle resources are lower and markets are more efficient than when it does not. Telecommunications increase arbitrage opportunities in financial markets, which in turn lower the capital costs of production.
2.21 MARKET PERFORMANCE STATISTICS

The telecommunications sector in South Africa continues to be characterised by relatively high retail prices, super profits, job losses, licensing delays and deadlocks with minimal new foreign investment in the sector (2004 ICT Sector Performance Review). So significant a growth sector is the communications sector that despite the drag inefficiencies the telecommunications sector may be placing on the overall economy, the South African telecommunications market has continued to grow way above the national economic growth rate – at an estimated rate of 14 percent between 2003 and 2004, with estimated total revenues of R78 billion for the year ending 2004 for operations within South Africa. This contributed around 5.1 percent to GDP in 2002, which represents a marginal decrease on the previous year’s 5.4 percent (ITU 2004 Annual Report). While this is not a poor contribution to GDP by lower-middle-income country standards, the fact that the contribution of this globally expanding sector is not increasing suggests that the sector may not be operating optimally.

Mobile is the fastest-growing segment of the telecommunications market (2004 ICT Sector Performance Review). Total revenues for the mobile sector in 2006 grew at a rate of well over 30 percent, with Vodacom declaring significant profits (EBITDA) of R 8.6 billion and MTN (EBITDA) up 53 percent to R 22 billion respectively in their local operations (Vodacom and MTN Annual Reports 2006). Fixed Line Operator Telkom declared 30.3 percent growth in Group operating profit to R 14.7 billion (EBITDA) for the 2007 financial year (Telkom Annual Report 2007).

The new entrant to the mobile cellular market in 2002, Cell C, continues to make gains, but with only just over two million subscribers, it is unable to compete head-on with the incumbents (2004 ICT Sector Performance Review).

While shareholders have seen significant value add over the past few years, consumers are the ones that have paid for the largesse of the listed telecom companies (2004 ICT Sector Performance Review). For the national economy, the high prices of both mobile and fixed line have retarded economic growth and, arguably, added to the inflationary environment of the last few years. The success of mobile appears to have come at the cost of the development of a “data divide” between those with access to the Internet and
the benefits it provides and those without access (2004 ICT Sector Performance Review).

2.21 CONCLUSION
The Telecommunications landscape in South Africa is on a road of change and liberalisation. Although Government is slow to introduce new measures to ensure the market is free and allow competition to set the demand price, new opportunities arise within the changing landscape. The research conducted in Chapter Two indicates that the road forward poses new opportunities for SMMEs in the telecoms sector. In order to formulate a better understanding of the telecommunications landscape in South Africa it is necessary to study and understand the country’s legal framework and in particular the Electronic communications act. The legal framework will be discussed in Chapter three.
CHAPTER THREE

REGULATORY AND LEGAL FRAMEWORK

3.1 INTRODUCTION
Chapter 3 will focus on the regulatory and licensing framework in South Africa. In order to find a solution to the main problem statement and certain sub problems, the regulatory framework in South Africa and the implications of licence requirements in order to formulate the SMME business model need to be understood.

3.2 WHY TELECOMMUNICATIONS IS SPECIALLY REGULATED
Traditionally, the answer to why telecommunications has been so regulated has been threefold. First, telecommunications was seen in the same light as other public utilities, such as water and electricity (CT Foreman, 1991). Foreman postulates that governments generally believed that it was their duty to ensure universal access to such services by providing the services themselves.

In the White Paper on Telecommunications Policy, 1996, the South African Government articulated the importance of communications in the development of South Africa. Although history has proven that creating and protecting government-owned monopolies may not be the best way to ensure universal service, the development and implementation of effective policies to spur universal service will continue to prove to be a key in regulating telecommunications for the future.

Secondly, governments historically thought about telecommunications as a natural monopoly (CT Foreman, 1991). According to Salvatore (2004) a monopoly is the form of market organisation in which a single firm sells a product for which there are no close substitutes. A monopolist represents the market and faces the market’s negatively slope demand curve for the product (Salvatore, 2004). Therefore, most governments protected a monopoly supplier of services by not allowing competitors to be licensed.

In terms of section 36(3) of the Telecommunications Act, Telkom SA Limited was granted an exclusive licence to provide certain public switched telecommunication
services for a period to be specified in its licence. The period specified was five years (paragraph 3, Licence Issued to Telkom SA Limited to Provide Telecommunication Services under s 36 of the Telecommunications Act, 1996, GN 768 of 1997 GG 17984 dated 7 May 1997).

However, despite the period of exclusivity having ended in May 2002, Telkom still enjoyed a de facto monopoly because, as competitors have not been able to enter the market at force in time. This economic model, however, is increasingly becoming inadequate for a number of reasons, not least of which is the advancement of technology. Today, regulatory policy and law regarding telecommunications are more focused on controlling monopolistic behaviour than on protecting monopolies. The regulation of interconnection and pricing (in addition to regulating for universal service) will be critical in the transition from a monopoly to a competitive market (2004 ICT Sector Performance Review).

Thirdly, it is important to regulate telecommunications especially to the extent that a valuable national resource is involved, namely the radio frequency spectrum. Without the exercise of control over how the spectrum is used and who gets to use it, anarchy might prevail or, perhaps even worse – the dominant participants might prevail at great cost to all other participants and consumers. Historically, governments have seen the radio frequency spectrum as a valuable national resource over which the government must exercise some control. That is still true today to a large extent, although the emergence of new digital technologies will make it less so in the future. Currently, the main reasons advanced for specialised regulation of telecommunications are to:

- maintain control over the use of a valuable national resource, namely the radio frequency spectrum;
- control anti-competitive behaviour by dominant players in the market, which in turn will lead to the realisation of universal service and to increased quality and choice;
- ensure the development and implementation of effective universal service policies (2004 ICT Sector Performance Review).
3.3 THE TELECOM-SPECIFIC REGULATOR IN A COMPETITIVE MARKET

While the economy-wide competition authority oversees all sectors in an economy and promote an effective competitive economy to the benefit of consumers and the economy, there are numerous reasons why a telecommunications-specific regulation is beneficial to the telecom sector. Some of these reasons are (Intven, et al 2000):

- The need for sector-specific technical expertise to deal with some key issues in the transition from monopoly to competition (e.g. network interconnection, anti-competitive cross-subsidisation);
- The need for advance rules to clearly define an environment conducive to the emergence of competition, and not just retrospectively apply remedies to punish anti-competitive behaviour or restructure the industry;
- The need to apply policies, other than competition-related policies, that are perceived important by national governments (e.g. universal service policies, national security and control policies);
- The need for ongoing supervision and decisions on issues such as interconnection, quality of service, and the establishment and enforcement of licence conditions, particularly for dominant operators.

The industry specific regulator is expected to (Intven, et al 2000):

- Determine the size of the telecommunications market by providing licences for the purposes of delivering telecommunications services;
- To foster healthy relations between the different service providers by overseeing interconnection agreements so that service providers have equal access to the network provided by the dominant operator;
- To resolve disputes and maintain a level playing field or regulate for fair competition so that the dominant operator does not abuse his or her dominance in the market place;
• To meet public policy goals so that consumers are protected against high prices, poor quality of service, inadequate infrastructure, limited services, unsafe equipment and neglect by the service providers;
• To address consumer complaints and solve them amicably;
• To ensure efficient use of the frequency spectrum and space for the provision of information technology services;
• To encourage investment, innovation and optimum growth of the sector (or related sectors) and operators’ performance;
• To administer the numbering plan so that there are sufficient numbers available.
• To monitor compliance with national and international telecommunications equipment suppliers and service providers.

3.4 INDEPENDENT COMMUNICATION AUTHORITY OF SOUTH AFRICA (ICASA)

The Independent Communication Authority of South Africa (ICASA) was established in July 2000, as a merger of telecoms regulator (Telecommunications Regulators Association of Southern Africa) and the broadcasting regulator (Independent Broadcasting Authority IBA).

The ICASA Amendment Act 2005 also provided for the incorporation of the Postal Regulator into ICASA the Amendment Act 2005 also increasing ICASA’s council complement from seven to nine councilors.

ICASA derives its mandate from four statutes. These are the ICASA Act of 2005, The Independent Broadcasting Act, the Broadcasting Act and the Telecommunications Authority Act and the ICASA Amendment Act. The Electronic Communications Act which substantially amended the IBA Act of 1993 and the Broadcasting Act of 1999.

3.5 FUNCTIONS OF ICASA

The Authority regulates the telecommunications and broadcasting industries in the public interest. Its key functions are to (ICASA Act of 2005):

• make regulations and policies that govern broadcasting and telecommunications;
• issue licences to providers of telecommunication services and broadcasters;
• monitor the environment and enforce compliance with rules, regulations and policies;
• hear and decide on disputes and complaints brought by industry or members of the public against licensees;
• plan, control and manage the frequency spectrum;
• protect consumers from unfair business practices, poor quality services and harmful or inferior products.

3.5.1 UNIVERSAL SERVICE AND ACCESS
It is the policy of the Government of South Africa that all people should have access to basic communication services at affordable prices. The role of ICASA as a regulator is central to achieving this goal. The Authority promotes the attainment of universal service and access by putting requirements in operator’s licenses to roll out services in under-serviced areas and ensuring that licensees contribute to the Universal Service Fund. ICASA does not however administer the Universal Service Fund, but merely receives monies on behalf of the Universal Service Agency (USA). The Authority is also responsible for ensuring that relevant and appropriate broadcasting services are extended to all citizens.

3.5.2 EMPOWERMENT OF PREVIOUSLY DISADVANTAGED GROUPS
ICASA has a mandate in terms of its enabling statutes, to promote and encourage the ownership and control of telecommunication and broadcasting services by people from historically disadvantaged groups.

3.5.3 COMPETITION AND FAIRNESS
ICASA has a responsibility to ensure level playing fields where rules apply equally to all industry players. This is why the Authority has a strong belief in open and transparent processes. There are many ways in which ICASA ensures regulatory fairness. These include developing regulations and policies, engaging consultative processes in
developing rules, regulations and policies. ICASA also ensures fairness through its adjudication functions.

The administration of regulatory justice and fairness is important for the creation of regulatory certainty. It is crucial for competition, for building confidence in the market and to attracting investment into the communications market.

### 3.5.4 CONSUMER PROTECTION

ICASA acts as a watchdog of the telecommunications industry. The consumer protection is tasked to educate consumers about the role and functions of ICASA. It also educates them about the importance of understanding their rights, and the procedures in complaints handling.

The providers of telecommunications services and products have a duty to give consumers fair hearing and settlement in cases where there are poor services and faulty equipment.

### 3.5.5 CONSUMER’S RESPONSIBILITY

It is the responsibility of consumers to acquire information and knowledge and make decisions on products and services. Consumers have the responsibility to be more alert and questioning about the quality and safety of products and services they buy. Before making decisions, it is necessary to obtain all relevant information on products they want to buy.

### 3.6 MANAGING ANTI-COMPETITIVE CONDUCTS

Monopolies and entities with market power will always endeavour to entrench a market presence and in doing so, they employ tactics that are anti-competitive (Hudson 1997:78-79). Hudson states further that in most cases, it is difficult to prove convincingly that an entity is employing anti-competitive strategies, for instance in the case of predatory pricing. One way of resolving, avoiding or basically managing this, is for the government to put in place policies that provide legal framework for managing anti-competitive conducts. The establishment of an independent statutory body to regulate
competition will also be applicable to managing competition. With regard to telecommunications, Hudson’s recommendation of the functions of a telecommunications regulator and the role it can play in managing competition in telecommunications (Hudson’s 1997:78-79):

**Pricing:** Where competition exists, the marketplace may ensure that prices are reasonable. However, where one carrier dominates the market or where demand far exceeds capacity, regulatory intervention may be necessary.

**Explicit Subsidies:** Internal cross-subsidies are often used to provide affordable services in less profitable areas. With the introduction of competition, it is important to make such subsidies explicit where they remain necessary, so that a dominant carrier cannot cross-subsidise competitive services with profits from monopoly services to drive out competition.

**Quality of service:** Monitoring of service quality is particularly important in developing countries, where one of the main objectives of restructuring the sector is to improve quality of service.

**Criteria for Access by Multiple Providers:** Where service competition is allowed, oversight is necessary to ensure that all have equal access to the network. Moreover, a provider of facilities must not gain an unfair advantage if it also offers services by restricting access to its network or charging inflated prices to other service providers who want to use it.

**Standards:** Uniform standards are needed to ensure that equipment is compatible and of acceptable quality. An impartial standard agency can also ensure that a dominant carrier or suppliers does not introduce standards that unreasonably discriminate against other vendors.

### 3.7 LEGAL FRAMEWORK

Telecommunications in South Africa are well-developed and often assumed to reflect positively on policy and regulatory reform over the past decade. Progress is evident in South Africa’s ICT indicators between 1996 and 1998, following the historic regime
change in South Africa in 1994 and the introduction of mobile services into the sector. However, the gap between South Africa and the global average on a range of ICT indicators has grown since then (Sciadas, 2005).

During the past decade, the South African telecommunications sector has been in a process of managed liberalisation. The passing of the Telecommunications Act in 1996 established a sector regulator and allowed for further mobile network competition and the partial liberalisation of value added network services (VANS) and private telecommunication networks (PTNs). In 1997, the incumbent fixed line operator, Telkom, was partially privatised. This was secured through the extension of its monopoly for a further five years (Sciadas, 2005).

In preparation for the second phase of reform, the Telecommunications Amendment Act was passed in 2001 to legalise a second fixed network operator (SNO), further mobile competition and create a new category of under-serviced area licences (USAL) to salvage the unsuccessful roll-out of services into economically marginal areas during the exclusivity period. The Act further granted a multimedia licence to the incumbent broadcasting signal distributor Sentech, together with an international gateway licence.

The Amendment Act also sought to introduce a number of competitive measures such as carrier selection and number portability. In the absence of an effective competitive framework, due to licensing delays in both the second network operator and the under-serviced area licences, the Ministry of Communications in September 2004 announced a set of policy directives that were to have ameliorated the situation through further liberalisation of the services market.

The directives, which have been hailed by industry, allowed mobile, VANS and PTN operators to re-sell their excess bandwidth, optimising available capacity and hopefully resulting in reduced prices and increased choice for users and consumers.

The liberalisation process is a dominant factor in creating competition in order to stimulate the demands of the market sectors. Traditionally South African paid excessive prices for telecommunication services and goods. According to Salvatore demand and supply increase or decrease directly in relationship (Salvatore, 2004).
Effective competition in South Africa can raise the stakes for demand in telecommunications and therefore create business opportunities and employment.

The regulator and the industry also interpreted the directives to permit VANS to self-provide facilities, although the Ministry provided a dissenting interpretation in a press release issued the day before the measures were to come into effect on 1 February 2005. The policy directives also further deregulate public payphone provision and introduce a 50 percent “e-rate” discount for Internet connectivity to all public schools. The new policy directives, welcome as they are in terms of opening up the sector to greater competition, have severe implications for recent entrants to the market and those still awaiting licences (www.itweb.co.za, 2006).

Once the liberalisation of self-provisioning and resale of bandwidth is enabled on both the demand and supply side, greater choice and cheaper prices for VANS and ISP services should result, but this is likely to be primarily in urban areas, since rural areas continue to be perceived as uneconomic, especially in the light of a diminishing business case for under-serviced areas licensees (USALs).

3.8 POLICY FRAMEWORK
In 2003-2004 the state has continued to pursue its policy of managed liberalisation, with emphasis on optimising the value of state assets and seeking to secure investment through protectionist incentives. Following the statutory end of the incumbent Telkom’s monopoly in May 2002, the state focused its attention on the initial public offering (IPO) of a further 25 percent of the company and the creation of conditions that would maximise its share price (Statement on Cabinet meeting, 2004).

3.9 THE ELECTRONIC COMMUNICATIONS ACT (ECA)
The South African government published a new Convergence Bill, 2005, in February 2005, to provide a licensing and regulatory framework for a converged telecommunications, broadcasting and information technology industry. However, it was not until mid-April 2006 that the Electronic Communications Act (ECA) was actually signed into law, but it was not until July 2006 that the ECA took effect. Furthermore, key
secondary legislation, such as that governing mobile number portability, was not activated until much later in 2006.

The formulation of the acts was aimed to set a legal framework that:

- defines new categories of licences;
- sets out rules and guidelines for licence applications, licensee obligations, and the construction of communications networks;
- provides for interconnection between licensees and facilities leasing by communications network services licensees;
- provides for a radio frequency plan, a numbering plan to enable number portability, and carrier pre-selection;
- specifies type approval and technical standards for communications equipment;
- provides for the Universal Service Agency and Universal Service Fund to continue to bring services to historically disadvantaged people and remote locations.

In the meantime, the South African authorities have proceeded with the liberalisation of the fixed-line market, with the licensing of the second national operator (SNO) in the fourth quarter of 2005. Neotel is owned by several key groups, representing state-owned entities (Transtel and Eskom own 30 percent between them), Black Empowerment Enterprise Nexus Connection (holding 19 percent), and a group of domestic and foreign investors (owning 51 percent, with the most important member of this group being Videsh Sanchar Nigam Ltd of India). Besides being authorised to offer basic local, long-distance, and international services, SNO Telecommunications may also offer advanced data and value-added network services, as well as third-generation (3G) mobile telecommunications services. Neotel launched in August 2006 (ITweb, 2006).

Ahead of the arrival of SNO, South Africa’s three cellular operators have secured enhanced GSM licences (formally permitting them to offer dual-band GSM 900/1800 services, even though Vodacom and MTN had already been offering GSM 1800 services for some time under interim licences). Both Vodacom and MTN have launched
3G services via GSM/GPRS/EDGE-enhanced platforms and have most recently initiated HSDPA systems that enable them to roll-out high-speed broadband wireless services. Relative newcomer Cell C has recently launched an EDGE-based service and - like its peers - aims to offer fixed-line services in the future, most likely via fixed wireless access platforms.

3.10 ECA LICENCE FRAMEWORK

The Electronic Communications Act (2005) is divided into three market structure classifications:

- Electronic Communications network services (ECNS);
- Electronic Communications services (ECS);
- Broadcasting services.

Table 3.1 indicates the licence matrix described in the Electronic Communications Act.

Table 3.1: ECA market structure classifications

<table>
<thead>
<tr>
<th></th>
<th>Electronic Communications network Service</th>
<th>Electronic Communications Services</th>
<th>Broadcasting Services</th>
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<tbody>
<tr>
<td>Individual</td>
<td>Individual Electronic Communications network Service Licence</td>
<td>Individual Electronic Communications Services Licence</td>
<td>Individual Broadcasting Services Licence</td>
</tr>
<tr>
<td>Class</td>
<td>Class Electronic Communications network Service licence</td>
<td>Class Electronic Communications Services Licence</td>
<td>Individual Broadcasting Services Licence</td>
</tr>
<tr>
<td>Exempt</td>
<td>Exempt Electronic Communications network Service</td>
<td>Exempt Class Electronic Communications</td>
<td>Exempt Broadcasting Services</td>
</tr>
</tbody>
</table>

Source: Lisa Thornton, 2006
Individual Licences:

- National and provincial Electronic Communication services (ECNS);
- Commercial and public broadcasting (national and provincial);
- Voice telephony using own numbers;
- ECNS, communications services and broadcasting owned more than 25 percent by state;
- Others (determined by ICASA) having significant social or economic impact.

Class Licences:

- Municipal ECNS;
- Community and low power broadcasting;
- Others (determined by ICASA) not having significant social or economic impact.

Licence Exempt:

- Non profit electronic communications;
- Services;
- Resellers of electronic communications services;
- PTNs (not selling excess capacity);
- LANs;
- Others (determined by Icasa).

3.11 REGULATORY IMPLICATIONS

According to Alison Gillwild (2002) the implications of a new regulatory environment involve:

- New regulatory frameworks need to deal with convergence but content and carriage require different regulatory approaches;
- Equivalent treatment of equivalent services, regardless of the delivery medium and as far as possible a technological neutrality;
- In multimedia environment whole new and more flexible regulatory approach;
• Merged regulator likely to be more effective but spread of skills required;
• more challenging than the physical integration of these historically distinct agencies is the development of new all-encompassing regulatory approach;
• greater flexibility and imagination in regulation if the benefits of the new technologies are to ensure equity in service provision, yet not stifle innovation and investment;
• vital to ensure that within the merged entity there exists a sufficient body of operational expertise for all relevant service types and should not be seen to favour one service type above another (Alison Gillwild, 2002).

3.12 CONCLUSION
In Chapter three the research indicated that the South African Government took the initiative and set a legal framework in order to deliver telecoms to all the people in South Africa. It is the role of companies including SMMEs to unlock their potential in this fast growing sector by finding innovative strategies to provide services within the country's legal framework. In Chapter four the author will focus on how other countries adopted regulatory changes and the impact on SMMEs.
CHAPTER FOUR

TELECOMMUNICATIONS TRENDS IN OTHER COUNTRIES

4.1 INTRODUCTION
This Chapter deals with trends and cases in other countries similar to South African conditions. The author focused mainly on Brazil as a comparative model and the research done was based on how government policies affected the market adoption of technologies, in particular telecommunications. According to the Genesis analytics report both countries has similar relevant characteristics such as geographical dispersion of population, income dispersion, market structure, GDP and Gini-coefficient of 0.58. In the year 2006 South Africa had a Gini of $G = 0.59$. The report also reveals similarities in the structure of the advanced telecommunications sectors of both countries (Genesis Analytics, 2006).

Figure 4.1: Telecommunication pricing structure of South Africa in comparison to Brazil

Figure 4.1 shows a comparison of telecommunications pricing structure between South Africa and Brazil (Cp. Budde, December 2006).

Research in this chapter is done to determine how successful governments and their regulations are in stimulating growth in the SMME sectors as a whole and the spillover effects on telecommunication SMME providers. The author also seeks to understand how companies adopted change and technology in order to make them more competitive as well the reasons for slow adoption towards telecommunications.

The recent changes observed in the structure of organisation of modern Western economy and societies have been affecting developed and developing countries alike (Amin 1994). As Amin (1994) observes, there is an emerging consensus in the social sciences that the period since the mid-1970s represents a transition for a new phase of capitalist development. In this new phase, the organisation of production is changing from mass consumption to customised products, employment in the services sector is becoming increasingly important, management of firms is becoming less hierarchical, the welfare state is being redefined and national states are increasingly taking decisions in a context of globalisation.

Given these trends, the diffusion of information technologies (IT) is becoming increasingly important and has become an object of public policy. Governments today regard IT diffusion as a path to increased competitiveness, especially diffusion in SMME firms that supposedly are more flexible than large firms and therefore form the basis of the new industrial paradigm (Amin 1994). In addition, Amin (1994) states that the redefinition of the role of the State has led to the privatisation of several state enterprises in sectors such as transportation, electrical power and telecommunications.

4.2 IT, DIFFUSION AND COMPETITIVENESS

SMMEs that adopt Information Technology (IT) expect to have an increase in competitiveness (Blili and Raymond, 1993). If one considers the firm as an information processor and a center of accumulated capabilities (Winter, 1995), the competitiveness of firms can be evaluated based on two different criteria: performance of products or services and technical efficiency of productive processes. Therefore, the impacts on
competitiveness derived from IT diffusion are internal and external to the firm. Internal impacts are those that improve the efficiency of productive processes, while external impacts are those that improve the performance of products and services.

**Figure 4.2 Uncertainties in the process of technological choice and functions to deal with them.**

![Diagram showing static and dynamic uncertainties and functions to cope with them.]

Source: Adopted from Camagni (1991)

Internal impacts of IT diffusion on competitiveness can be understood if we consider that firms have static and dynamic uncertainties related to the process of technological choice, and as a result they develop functions to cope with these uncertainties as seen in Figure 4.2 (Camagni, 1991).

IT diffusion allows firms to establish the functions described in Figure 4.2 more efficiently, thus stimulating innovative capabilities and competitiveness (Camagni, 1991). As the functions described by Figure 4.2 require an organisation of the informational flow of firms, the positive impacts on competitiveness will be greater if firms already have their information flows organised.
As for external impacts on competitiveness, IT diffusion allows a better information flow between the firms and their clients and suppliers (B2B). As a result IT diffusion stimulates the development of electronic trading systems. These systems, especially Internet-based systems, reduce marketing and distribution costs and improve consumer service, thus bringing competitive advantages to the firm. Electronic trading also increases competitiveness because it raises the informational content of the product along the value chain (Cunningham and Tynan, 1993).

However, electronic trading systems can raise barriers to entry in some markets, because they introduce learning costs for users and crystallise relationships between the firm, its clients and its suppliers (Bloch et al., 1996).

Finally, IT diffusion has significant impacts on transactions between firms and their clients (B2C). The resulting impacts on transaction costs will be different according to the nature of information, sectoral characteristics and the supply of IT (Brousseau, 1995).

**4.3 PRIVATISATION AND DEMAND FOR TELECOMMUNICATION SERVICES**

The telecommunications resources can represent a significant part of the firms’ total costs, especially in developing countries. The privatisation of the telecommunications sector aims to reduce these costs for the firms, therefore acting as a means to increase competitiveness. As in other developing countries, the privatisation of the Brazilian telecommunications sector has been justified on the grounds that the amount of investment required to offer more services at reduced costs exceeds the capacity of finance of the State (La Rovere, 1998).

The Brazilian Ministry of Communications (Ministério das Comunicações, 1977) devised a plan for modernisation of telecommunication and postal services (PASTE) that established guidelines for investments in the near future. The PASTE aimed to raise the quality and the number of consumers of telecommunications services in Brazil with investments of U$90 billion between 1995 and 2003. A significant part of this investment would be private; therefore, the Brazilian Government expects that with privatisation the telecommunication infrastructure will be greatly improved. As a result of this
improvement IT diffusion and the acquisition of competitive gains among the firms would be stimulated.

However, as the use of telecommunication services is also affected by regional and sectoral characteristics, the simple provision of infrastructure is not a sufficient condition to increase firms' competitiveness (Gillespie et al., 1995). Empirical studies made in Europe suggest that firms' answers to the same IT diffusion policies are different according to the sector and the region (Capello and Nijkamp, 1995). As observed by Burgelmann (1995), one of the main problems of IT diffusion policies lies in the fact that, while the telecommunications infrastructure can be defined by industrial policy, the demand for telecommunication services depends mostly of the information content that in turn is defined by regional and local characteristics.

Despite the above mentioned facts, most policy makers still focus on the ‘T’ of IT, supposing that the implementation of an advanced infrastructure will ensure the development of an information society, where regional inequalities would lose importance. Most IT diffusion policies in developed countries are supply-oriented policies, which are not adequate to SMMEs (La Rovere, 1996). In Brazil, policy makers tend to follow the same path, by focusing on infrastructure policies and disregarding other important issues such as the degree of organisation of information in firms. The Brazilian Government expects that with privatisation firms will increase their demand for telecommunication services. The positive impact on demand would in turn stimulate IT diffusion.

Nevertheless the demand for telecommunication services does not depend only on the quality of services. The demand for traditional telecommunication services (telephone and fax) is determined by the cost and the quality of services. The cost of services depends on the number of subscribers and the relations between the service provider and equipment suppliers. These relations will in turn define the quality of services, and as a result the rate of usage. The quality of services depends also on the degree of technological updating of the telecommunication infrastructure. The unsatisfied demand for traditional telecommunication services will therefore be high in regions where the
cost of those services is high or where the quality of services is below consumers’ needs.

4.4 BRAZILIAN SMMES
As observed by Bhalla (1992), SMMEs in developing countries tend to be more heterogeneous than their counterparts in developed countries: in developing countries SMMEs absorb more employees and are present in more sectors than in developed countries. Moreover, in developing countries firms perceive IT differently from their counterparts in developed countries, since the conditions of infrastructure; awareness and availability of trained personnel vary greatly. Palvia and Palvia (1996) suggest that decisions concerning IT in firms from developing countries are driven by operational issues, whereas firms in developed countries make decisions on IT based on strategic issues. Several empirical studies on IT and information systems in developing countries seem to confirm this hypothesis. In addition, developing countries face several challenges related to IT introduction, such as (Roche and Blaine, 1996):

- the possibility that the use of IT may deepen the economic and social inequalities already present;
- the possible negative impact on domestic employment;
- the cost of building and maintaining an IT infrastructure.

As mentioned before, the Brazilian government intended to meet the third challenge with privatisation. As the case in South Africa, for most Brazilian firms, the inadequacy and high costs of the telecommunications infrastructure are perceived as serious obstacles to IT diffusion (La Rovere, 1995). Nevertheless, the improvement of the infrastructure that will result from privatisation may not stimulate IT diffusion in SMMEs.

Due to different regional and sectoral conditions Brazilian SMMEs are heterogeneous. Regions more sparsely populated are also the regions where SMMEs are behind in competitive terms, therefore the demand for advanced telecommunication services that can spur IT diffusion in these regions may not grow. SMMEs located in backward
regions will tend to focus their demand in traditional telecommunication services, whereas the SMMEs of the South and South-East will also demand advanced services, especially those that are in competitive sectors (Hana et al., 1995).

The Government may try to compensate regional differences by introducing measures to regulate the market so that the prices of telecommunication services for firms in backward regions are lower than those for homes. However, this measure would have a limited effect since a significant part of SMMEs are not registered as firms, so their telephone lines are accounted as domestic lines. As for advanced telecommunication services, only SMMEs that already have their information organised, such as firms in industrial districts and in high-technology sectors, will tend to increase their demand with the opening of the market (Hana et al., 1995).

Other criteria in addition to size should be taken into consideration. Even if the supply of telecommunication services meets the aims fixed by the Government, there will be other obstacles to be surpassed so that IT diffusion in Brazilian SMMEs catches up. Sectoral and public institutions can help to surpass these obstacles by awareness-building and financing efforts.

The increasing convergence between informatics and telecommunications has stimulated many countries to implement IT diffusion policies. Although each country has its own policy portfolio, that is defined according to economical, strategic and policy experiences, there is a growing emphasis in demand-oriented policies (Hana et al., 1995). In other words, in developed countries there is a growing awareness that it is not sufficient to implement an advanced telecommunication and informatics infrastructure to ensure IT diffusion. More specific policies are needed, especially in the case of SMMEs. There are several types of policy that can be implemented, such as (Hana et al., 1995):

- technology capability programs that support R&D, provide information, track technological developments and advance strategic alliances and technology transfer;

- diffusion programs for small firms that place technical experts at firms to promote technological education and identify improvement opportunities, stimulate the
use of private consultants, provide technology advice through state-supported technology and productivity centers, and raise awareness;

- bridging programs, in which government provides vocational and technical education, adopts best practices in public sector use of IT, sets standards, develops science and technology parks, and coordinates inter-agency programs.

So far in Brazil there have been some efforts at the federal level to set up bridging programs, and some Brazilian states like Rio de Janeiro have been implementing diffusion programs for small firms as well (Luna and Barcia, 1995). However, there is no coordination between these policies, and they reach only firms in sectors considered strategic, such as software.

There are several reasons for the low ratio of fully computer-equipped SMMEs in the country. As observed by Luna and Barcia (1995), Brazilian SMMEs faced the following difficulties:

- difficulties in the process of choice and evaluation of adequate technologies;
- few software programs adequate to SMMEs;
- few software programs in Portuguese that can improve competitiveness of SMMEs;
- customised development of information systems based on methodologies that reflect the necessities of large firms;
- high cost of investment in computers.

The investment in computers is important because SMMEs can then open new business opportunities with electronic trading systems. However, there are some obstacles to the development of fully effective electronic trading systems, such as (Bloch et al., 1996):

- adequate infrastructure;
- low position of firms in the technological learning curve;
• the existence of concurrent technologies;
• direct and indirect costs involved.

4.5 TELECOMMUNICATION COMPARISONS

Table 4.1 indicates the price of mobile ‘low user’ basket in US$ per month in August 2005 in different countries.

Table 4.1: The price of mobile ‘low user’ basket in US$ per month.

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</thead>
<tbody>
<tr>
<td>Hong Kong</td>
<td>2.19</td>
<td>Turkey</td>
<td>6.59</td>
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<td>14.06</td>
<td>Peru</td>
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<td>Philippines</td>
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<tr>
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<td>Spain</td>
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<td>Mexico</td>
<td>33.17</td>
</tr>
</tbody>
</table>

Source: Adopted from ITU2005B, 2005

Figure 4.3: Telecommunication pricing structure in South Africa in comparison to other countries

Source: ITU2005B, 2005
Figure 4.3 indicates how the telecommunications structure in South Africa compares to others. The high cost of telecommunications in the country is a direct result of monopolistic nature of the sector for the past decade.

**Figure 4.4: Reasons why people pose resistance to make a call from a mobile phone in African countries**


**4.6 THE SOCIAL CONSTRAINTS TO THE OWNERSHIP AND USE OF TELECOMMUNICATION TECHNOLOGY FOR DEVELOPMENT**

In developing countries there are various social problems, which create barriers to people owning and using telecommunications (Ivala 2000:24). These problems, amongst others, include illiteracy, cultural barriers, lack of computer skills and technological know-how, lack of access to computers and computers networks as a result of the digital divide, no Internet access, lack of significant usage opportunities, background to increasing information equality and structural information equality.

**4.7 ILLITERACY**

In most developing countries there are still a high percentage of uneducated people. South Africa is no exception as illiteracy rates are very high and people, especially the
young have to go to school and attend institutions of higher learning to get good education (Ivala 2000:24). Part of this education includes acquiring computer literacy and technical skill to operate and use computers at different levels, i.e. whether to conduct research over the Internet, upgrade the computer's storage capacity, store information in databases or use the computer for other functions.

Illiteracy will be drastically reduced if technical or computer skills are imparted to most members of society. People should not just gain access to telecommunications and computers, but should also learn various applications so that they can be employable which will reduce the high unemployment rate in South Africa (Ivala 2000:24).

4.8 CULTURAL BARRIERS
In some developing countries, there are still some people who are barred from using telecommunications technology due to cultural beliefs (Van Dijk, 1999:148). Some have "computer fear" and Van Dijk (1999) states that those who fear computers shrink back because they think it is too difficult to use them or because their first experience with such devices have been too unpleasant. It is possible that some do not use computers because of ignorance or may not be aware of how computers can help them. With regard to the latter, these groups can then be given access to computers either by the public or private sector organisations and can be taught how to use computers and shown how computers can help them. Most literature suggests that young people tend to use computers more than old people, so age can also be a determining factor about who uses computers and who do not.

4.9 LACK OF COMPUTER SKILLS AND TECHNOLOGICAL KNOW-HOW
This is another problem in most developing areas, especially rural areas of Africa. Computer skills are lacking in some people and this problem can be remedied once telecommunication infrastructures have been established in their areas of residence and in addition to that they get access to computers and computer skills imparted to them by those who have this technical know-how. In addition, the digital divide has created a
bridge between rural and urban areas in most parts of the developing world (Mbarika, 2002).

4.10 NO INTERNET ACCESS
The Internet is a good educational tool but can be expensive for poor members of society to afford in terms of paying for all the monthly connections to the Internet Service Providers (ISPs). Mbarika (2002) has already stated that most least developed countries in Africa do not have access to the Internet, which will add to their slow development and this is exacerbated by poor telecommunications infrastructures and low teledensities.

4.11 LACK OF SIGNIFICANT USAGE OPPORTUNITIES
The fact that rural people, who form a large part of the inhabitants of developing countries, have no access to telecommunication technologies and other ICTs deny them the opportunities to interact and familiarise themselves with such devices (Mbarika, 2002). This is because such devices are not readily available to them where they are located.

On the other hand, it is easier for someone residing in a township to get access to a telephone and a fax machine. South African rural areas with telecentres, such as Ndevana, Flagstaff, Tongo near the Wild Coast and Middledrift in the Eastern Cape, can have easy access to ICTs located in the telecentres, if these telecentres are fully functional and without access problems and network cut-offs (Mbarika, 2002).

4.12 CONCLUSION
Research in Chapter four focused on similarities between other countries, and in particular Brazil, and South Africa. Although globalisation trends require more telecommunication resources and the usage thereof, developing countries still struggle with basic issues like high prices, the digital divide and illiteracy. Chapter five will focus on SMME opportunities in South Africa country where the above mentioned factors form a part of.
CHAPTER FIVE

SMME OPPORTUNITIES IN THE TELECOMMUNICATIONS SECTOR

5.1 INTRODUCTION
Research in Chapter 5 will focus on the day to day challenges SMMEs face with regards to maintaining a viable business model. Taking into account the external factors already discussed in Chapter 2 and Chapter 4 as well as the regulatory framework discussed in Chapter 3, SMME owners, mostly entrepreneurs have to adopt to a flexible, yet robust approach towards formulation their business model. Leadership, adaptability and innovation are a requirement for any startup or existing venture in the telecommunications sector. The changes in regulation that pose challenges and opportunities will be discussed.

5.2 SMME OPPORTUNITIES
In the traditional model of telecommunication services, the provider had a monopoly power due to the externalities involved. The State guaranteed universal access with regulation or ownership of providers and the practice of cross subsidies. With the disappearance of cross subsidies brought by the opening of the telecommunications market, more sparsely populated regions generally suffer a rise in prices that result in a negative impact on the demand of SMMEs (Granger, 1995).

Empirical studies in developed countries indicate that SMMEs are sensitive to the cost of telecommunication services, and that opening the market generally raises the price of local calls, that are the traditional services most used by SMMEs (Granger, 1995). The final impact of privatisation on the demand of traditional services will therefore be the combination of two elements. The first element is the negative impact that results from the rise in costs of telecommunication services for firms. The second is the positive impact resulting of a possible improvement in quality of services brought by the opening of the market.
The demand of SMMEs for telecommunication services depends on several elements. As observed in Chapter 4, the diffusion of advanced services and the pattern of use of those services depend on regional and sectoral characteristics. Applications like telecommunications networks are important in networks of firms geographically dispersed, like building services in some countries. Granger (1995) has identified the main elements of the use of advanced telecommunication services by SMMEs.

According to Granger (1995), the main determinants of the use of advanced services are the size of the firm (measured by number of employees or financial turnover), the number of plants of the firm, its insertion in the external market and the number of suppliers (Granger, 1995). For most services, the use increases if the number of clients is very small or very large. In the first case, the firm will attribute a privileged character to its relations with clients, using advanced services as a marketing strategy.

Granger also states that firms will need more telecommunication resources to better organise their information. The demand for advanced services depends therefore on sectoral characteristics of the firms and their competitive strategies. The role of externalities in the determination of demand for both traditional and advanced telecommunication services must also be taken into account.

Antonelli (1995) observes that a distinction between access externalities and use externalities must be done. Access externalities tend to be positive, because the rise in the number of users of a service improves communication conditions and stimulates potential users to adopt the service. However, externalities in use tend to be negative, because telecommunication services are based in a network that has physical connection limits. The existence of negative externalities depends on the nature of the service. In traditional telephony those externalities are important, but in EDI they are not (Legey, 1997).

The combination of a liberated telecommunications market in South Africa and the abovementioned research leads to a new window of opportunities for SMMEs in the telecommunication sector to explore. According to analyst Simon Sherrington (2007), an opportunity exists for broadband providers to drive new revenue growth through selling
broadband managed services (Research Report, 2007). However, competition among providers of broadband managed services is increasing, customer requirements are exacting and establishing credibility can be a hurdle for SMME providers to overcome. Based on the research report, the following areas of managed services are to be considered as a part of the SMME telecoms provider’s basket:

- Broadband technologies;
- Mobile technologies;
- Voice Over IP (VoIP) services and IP PBX;
- IP VPNs;
- Web-site hosting;
- Email;
- Internet security (such as virus and spam protection and firewalls);
- data storage, archiving and back-up;
- desktop management;
- software as a service (SaaS, also known as managed software, on-demand software and application service provision (ASP);
- Web conferencing;
- surveillance, monitoring, closed circuit TV and IP TV (Research Report, 2007).

SMME providers have to adapt their skills, expertise and knowledge towards the mentioned technologies and services in order to be competitive in the emerging telecommunications market.
5.3 DEVELOPMENT IN TECHNOLOGY
SMMEs face the challenge to continuously adapt their business model to technological changes. Today, technological changes have swept across telecommunications industry and the miniaturisation of technological and communication devices has imparted enormously on the ubiquitous diffusion of these technologies (Intven, 2000). These changes in technology spark a revolution that is currently and continuously taking place in the telecommunications sector. Developments in two issues: technology and market are increasingly shaping the telecom and the global ICT sector (Intven, 2000).

Various issues affect the development of technologies including capacities, economic consideration, adaptability, user friendliness and financial impact. The digitisation of ICT applications has revolutionised development in this sector (Intven, 2000). So have the transitions from circuit-switching to packet-switching, from analogue to digital and from fixed to wireless technologies. The telecommunications sector has continuously witnessed a glut of technological devices, whereby selection is logically based on the economics and adaptability of technologies to various regions of the world (Intven, 2000).

Development and dynamism in the market structure have also contributed to the revolution in the Telecommunications sector. The deregulation and liberalisation of the telecom market have resulted in a transition from monopolistic market to a competitive market and have ushered in an era of privatisation, mergers and acquisition and opened the market for SMME providers to compete (Intven, 2000).

5.4 THE MARKETING OF INNOVATIONS
The marketing of innovations to SMMEs has undergone considerable analysis and debate, particularly in relation to new technologies. Mahajan and Muller (1998) propose that with “high-tech” products, the targeting of innovations does not necessarily lead to market success. They suggest that traditional laggards are dropped from marketing strategies, and innovators as well as early adopters are grouped together and targeted. In this way, the early and late majority can be grouped as the mainstream market and strategies developed separately for this group.
Major innovations may have to prove themselves in new markets before they can displace other technologies (Friar and Balachandra, 1999). It is the early adopters or innovators who will initially experiment with these technologies and hence the marketing of new technologies to this group is a useful first step. In addition, the usefulness and ease-of-use will impact on owner/manager acceptance of the technologies (Agarwal and Prasad, 1997).

5.5 ENTREPRENEURIAL BEHAVIOUR IN SMME COMPANIES

Strategic management theory recognises entrepreneurial decision making as the activity of managers pursuing equilibrium between dynamic external forces and factors internal to the organisation (Porter, 1985). The positioning model of strategic adaptation assumes the primacy of macro-economic change drivers, such as economic conditions and technology, in determining the competitive structure of the industry, and in turn, testing the suitability of the firm’s activities in satisfying the demands of the selected market environment (Porter, 1985).

From the starting point of the need for the organisation to develop internal economic competence, the resource-based view of strategic decision making (Baden-Fuller and Stopford, 1992) identifies the prime task of managers as that of developing a unique configuration of asset capabilities which can provide the organisation with a sustainable competitive advantage. This perspective accords a degree of freedom to managers to take the entrepreneurial initiative.

Hofstede (1980) drew attention to the socialisation of managers to come to hold tacit organisational pre-dispositions as a result of their participation in the wider national culture. Miles and Snow (1978) highlighted the impact of organisational frames of reference and their impact on managerial risk-taking. Culture in this context refers to current ways of organisational thinking, from these perspectives can be seen as reflecting external and internal experience and historic as well as recent influences.
5.6 EMBRACE CHANGE
In the Tradition of Schumpeter (1934), entrepreneurs are seen as the small business owner-managers who keep ahead of competitors through better management and the introduction of new, innovative products and processes. Storey (1994) refers that SMMEs offer the best scope for innovation and sustained employment. The start-up phase in a firm’s life cycle is generally entrepreneurial but there needs to be a sustained change and progression from that phase if the firm is to survive and prosper (Flamholtz, 1986)

The essence of Schumpeter’s approach is that entrepreneurs are competitive and always strive to gain an edge over their competitors. When they begin to consolidate and slow down, they revert to being managers and are often more risk-averse and no longer entrepreneurial. Thus, attitudes to innovation, change, growth and the continued attainment of growth are essential elements of entrepreneurship and contribute to the success of the SMME business.

5.7 THE NATURE OF ENTREPRENEURIAL ACTIVITY
Zimmerer and Scarborough (1996) envisages the scope of innovation as follows: Although entrepreneurial management is concerned primarily with the internal environment of the company (tactical decisions), entrepreneurial strategy is concerned with matching the company’s internal capabilities and activities to the external environment in which the company must compete, that is, with strategic decision-making (Zimmerer et al, 1996). The described entrepreneurial actions are intended to reduce the gap between the firm’s goals and its realised performance.

5.8 CRITICAL SUCCESS FACTORS
Seybold (1998) identifies eight critical success factors for SMMEs to be successful:

- Target the right customers;
- Own the customer’s total experience;
- Streamline business processes that impact the customer;
• Provide a 360-degree view of customer relationship;
• Let customers help themselves;
• Help customers do their job;
• Deliver personalised service;
• Foster community.

5.9 THE BASIC CONCEPTS IN TELECOMM COMPETITION

In a market-economy where competition exists, suppliers compete with each other to sell goods and products to their customers. Suppliers contend with each other to offer better service, better packages and use qualities of service to attract consumers. In such market, where competition exists, individual suppliers lack market power and as such cannot dictate the tone and shape of the market. Suppliers can only react to the competitive strategies of their competitors in order to stay in business. This serves the public interest and the consumers benefit from this (Seybold, 1998).

In the telecommunications, markets are not usually perfect. They are often dominated by big suppliers who use their position to determine the shape of the market and the form of the sector in general. To evaluate the competitiveness of the telecom market, it is important to identify and briefly analyse some of the various pertinent issues that characterise the discourse of competition in the telecom sector. According to Seybold (1998) some of these issues are barriers to entry, market power and dominance, and series of anti-competitive conducts.

5.10 BARRIERS TO ENTRY

A barrier to entry refers to how easy a new supplier can enter a market space and operate competitively. Prices are often used as tools in this process. If it is easy for a new supplier to enter and provide a substitute product, established supplier will not embark on a long-time price increases. This kind of price increases would encourage market entry and consequently increase competition. In other words, the existence of
barrier to market entry limits competition in the sector. Examples of barrier to entry are government restrictive licensing practices such as ICASA allocating telecommunication licenses, refusal to supply essential facilities and refusal to interconnect networks or delays in the aforementioned issues.

5.11 MARKET POWER AND DOMINANCE

Market power is the “ability of a firm to raise prices above market levels for a non-transitory period without losing sales to such a degree as to make this behaviour unprofitable” (Intven et al, 2000). Most of the attention of regulators with regards to market power is focused on established telecom companies that have market power. If such operator raises prices of its services, the impact will be felt in the sector; however, firms without market power cannot raise prices to the level that it will affect the sector. If they do, they risk the possibilities of losing customers. Some of the factors to consider in determining if a firm has market power are:

- **Market share**: This can be measured in many ways, such as monetary value, units of sales, units production and production capacity;

- **Pricing**: price competition in which a firm sets a price and the rest follows the price or shadows this is evident of a market power;

- **Profitability**: Closely related to price is excessive profitability which indicates insufficient price competition and the exercise of market power;

- **Vertical integration**: in telecommunications, incumbent operator that can extend its market vertically indicates the operator enjoys market power. Example of such integration is a telecom operator that is providing local access, long distance as well as international services. Such operator may use its market power in the local access to a competitive advantage in the long distance service. It may raise price of local access to subsidise the long distance and international service (Intven et al, 2000).
Market dominance is an excessive form of market power. Market dominance is when a telecom operator owns a relatively high market share, usually no less than 35 percent, but often from 50 percent and above (Intven et al, 2000). Market dominance is also noticeable when there is significant barrier to entry into the market occupied by the dominant firm. Below are some common examples of abuse of dominance by a telecommunication operator (Intven et al, 2000):

- Refusal or delay in providing essential facilities to competitor;
- Providing services or facilities to competitor at excessive prices or on discriminatory terms;
- Predatory pricing and /or cross subsidisation of competitive services with revenues obtained from services which are subject to less competition;
- Bundling of services designed to provide the dominant firm with exclusive advantage in subscriber markets or require a competitor to obtain services or facilities which it does not truly needs (Intven et al, 2000).

Remedies to abuse of market dominance vary. The central issues are to prevent, correct or punish a firm that abuses dominance. In this regard the competition authority or regulator should have certain powers to investigate such abuse and utilise the power to remedy the abuse. The following are some of the powers to remedy abuse of dominance (Intven et al, 2000):

- Power to issue enforceable orders against the dominant entity;
- to cease abusive behaviour;
- to prescribe specific changes in its behaviour to limit the abusive aspects;
- Power to revoke the licence of the dominant entity (NB. In practice, this has limited applications since no regulator wants to deny service to the public);
- Power to fine the dominant entity and the individual persons responsible for the abusive conduct;
- Power to order compensation (damages) to be paid to subscribers or competitors injured by the abusive conduct;

- Power to restructure the dominant entity (such as the divestiture of some line of some of business or structural separation of those lines into separate but affiliated company);

- Power to facilitate and approve informal settlements in cases of abuse of dominance (e.g. to pay compensation, restructure, voluntarily cease or change conduct) (Intven et al, 2000).

5.13 SMME RESOURCES

Similarities in resource structures exist between SMME companies in most sectors. The SMME Survey 2007, sponsored by Standard Bank and Fujitsu Siemens Computers, indicated that there was a strong statistical correlation between resources and competitiveness. External mentors, computers and high-speed Internet connectivity, are some of the resources that small and medium-sized (SMEs) see as building blocks to competitiveness, a survey found (http://www.smmesurvey.co.za).

Principal researcher Arthur Goldstuck said the implication is that you stand to make your company more capable by taking advantage of the same resources (http://www.smmesurvey.co.za). He explained that there was, for instance, a direct relationship between the number of computers used and the competitiveness of the company.

The survey also indicated that of those using more than ten machines in their environment; more than 46 percent are competitive, with more than 50 machines, the level of being highly competitive increases to 54 percent.

Affordable, high-speed Internet connectivity was also a resource that local SMMEs saw as a tool that enhanced competitiveness. The survey, which interviewed over 5 000 SMMEs, indicated that 45 percent of ADSL users were highly competitive, and that the
users of Mac and Linux software – regarded as more mature technology – some 48 percent were competitive.

The use of support services, such as end-user training, hardware and software sales, web development and strategic consulting, also showed a relationship with competitiveness. Fujitsu Siemens Computers business development director Danny de Beer said that most SMME owners were eager to find technologies and services to improve their efficiency but don’t get around to it.

“Many SME owners spend too much time on relatively arbitrary functions instead of paying a specialist to handle it for them. However, the problem is twofold: One is that the business owner may not trust the available service providers, or know how to find them, and the other one of cash flow,” Mr. De Beer (2007) said (http://www.smmesurvey.co.za, 2007).

The use of professional services and financial instruments were further used to the advantage of SMMEs, the survey showed. Standard Bank director of business banking Melt van der Spuy (2007) said that those using professional services and mentoring are likely to have a more strategic, rather than operational focus (http://www.smmesurvey.co.za, 2007).

5.14 ISSUES PERTAINING TO SMME FINANCE IN SOUTH AFRICA

A diversified financial sector capable of meeting the full range of demand for financial services is needed to facilitate the objectives to raise the ability of the self-employed to sustain the economic activities essential for their survival. The challenge for the SMME sector is now to establish good practices for SMME financing and the provision of non-financial services to the SMMEs.

Although the SMME sector has been hailed for creating jobs and improving economic conditions in South Africa, lack of financial support is widely viewed as the main problem facing entrepreneurs. The sources of funding for start-ups in South Africa include “self” (the owner’s savings and income), “personal network” (the owner’s family, relatives, friends and neighbours, colleagues and employer) “and institutional finance”

A research intervention conducted by Naude and Havenga (2004) indicated that most entrepreneurs struggled with accessing financing from banks due to excessive red tape and administrative burden. According to Naude and Havenga (2004:15) financial institutions rarely finance start-up businesses, are bureaucratic without any knowledge or understanding of entrepreneurs, not willing to assist and wary in providing finance to people who do not have a business record.

The lack of sufficient financing is a serious constraint during the formation of new ventures as well as at later stages, as business requires additional inflows of capital to support expansion and growth (Nieuwenhuizen and Groenewald, 2004:9). Inadequate bookkeeping is also responsible for deficiencies in several other areas of financial management.

Although support providers are in place certain businesses and prospective entrepreneurs through either ignorance or lack of information could still remain unknowledgeable about the availability and accessibility of these support systems. The Eastern Cape Development Corporation ECDC provides funding facilities to SMMEs in the region including the Border area. The institution established an Enterprise Finance unit for this purpose (www.ecdc.co.za, 2007).

The key purpose of the Enterprise Finance Unit is to facilitate access to finance for SMMEs as well as to facilitate access to financial services for SMMEs particularly in the developmentally challenged areas of the Eastern Cape Province. It is envisaged that if these activities are successful SMMEs can establish, expand and create job opportunities. The Unit's campaign seeks to disprove the rigid beliefs in collaterals and to entice the other players in the sector to use more creative, pragmatic methods of risk evaluation. In terms of the Unit's lending philosophy, key criteria for lending are adequate management ability or capacity and a viable business proposal or business venture (www.ecdc.co.za, 2007).
5.15 CONCLUSION
Chapter five focused on the opportunities and challenges SMMEs face in the telecommunications sector. In order to be successful in the fast changing telecommunications sector, SMMEs will have to adopt an approach of clearly defined strategies that will address both price and service differentiation to maintain a competitive advantage within their business plans. Research indicates that a strong entrepreneurial spirit is required to drive innovation and embrace change. Research in Chapter six will focus on the research and design methods needed to solve the main and sub problems.
CHAPTER SIX

RESEARCH DESIGN AND METHODOLOGY

6.1 INTRODUCTION

In this chapter the method used to implement the empirical study will be discussed. The main and sub problems will come under review and the manner in which the problems are solved will be offered. Questionnaires were one of the methods used to collect data and will be discussed.

Results were tabulated for each question posed to the respondents and conclusions drawn from each set of results. The results will then be used in conjunction with the literature review findings and discussed in the following chapter.

The research process involves the application of various methods and techniques in order to create scientifically obtained knowledge by using objective methods and procedures (Welman and Kruger: 2001:2). The purpose of this chapter is to present the methods and techniques applied to obtain the findings presented in Chapter 7.

Walliman (2005: 238) provides the following steps in the research process:

**Figure 6.1 The research process**

![Figure 6.1 The research process](image)

The research topic is discussed in Chapter 1 and the current chapter will focus on the research methodology. Aspects of the research method to be covered in the chapter include the basic type of research design, a definition of the population, the measurement instrument, the data collection methods used and the statistical techniques applied to analyse the data. The chapter starts by revisiting the problem statement and the research objectives.

6.2 RESEARCH DESIGN

According to Riley, Wood, Clark and Szivas (2000) there are two types of research, pure and applied. Pure research refers to that which has no obvious practical implications beyond contributing to a particular area of intellectual enquiry. Applied research on the other hand this problem focused and is directly at toward solving some particular intellectual question that has practical implications for a client outside the academic realm.

The nature of this research project is applied and the author attempt to solve a problem by application, understanding the full impact of the practical environment affecting a business model. Welman and Kruger (1999) postulates that these had man who first has some difficulty which the researcher experiences in the context of either a theoretical or practical situation for which he wishes to obtain a solution. In this study the researcher is posed with the problem:

A BUSINESS MODEL FOR SMMES IN THE TELECOMMUNICATIONS SECTOR IN THE BORDER REGION.

In order to assist in resolving the main problem the sub problems were identified namely:

- Contextualise the key challenges in telecommunication sector in S.A.;
- What are key features of successful models in other countries;
- Analyse similar case studies in other countries;
- Local Externalities influencing SMMEs includes:
  - Assess the impact of external environment;
- Licensing and ICASA compliance;
- Compliance to the ECA;
- Fast technological changes;
- Competition;
- Products and services;
- Adapting new technologies such as Voice Over IP.

- Identify the key internal environmental aspects. Factors which pose potential problems in establishing a business model for SMMEs are:
  - Leadership;
  - Lack of resources;
  - Time constraints;
  - Access to Finance.

The procedure used to solve the main problem and sub problems was as follow:
In Chapters two to five a literature study was conducted to establish factors influencing a successful business model in the telecommunications sector:

- Chapter 2 focused on the telecommunications environment in South Africa. But chapter focused on the contribution telecommunication companies, government and private sector towards small companies;
- In chapter 3 the research was done on the regulatory and legal framework in South Africa. Regulation has a major impact on the SMME telecoms market and licensing affects factors like barriers to entry and what services these companies are allowed to offer;
- Chapter 4 reviewed similar models in other countries and the researcher investigated similarities between SMME companies operating in the countries;
- Chapter 5 focused on opportunities and challenges SMMEs have to deal with on a daily basis.
6.3 THE EMPIRICAL STUDY

The empirical study was conducted by means of an online questionnaire and developed from the literature study. The results of the questionnaire were then statistically analysed.

In addition the following techniques employed were:

- Experience Surveys - Discussion of issues and ideas with knowledgeable and experienced people in the telecommunication environment;
- Secondary Data Analysis - Trade literature reviewed and analysed;
- Electronic Interviews - Open ended questions were emailed to respondents.

6.4 RESEARCH INSTRUMENT

In scientific research variables must be measured (Graziano and Raulin 1998: 68). There are four basic types of measurement options. The different levels of measurement include:

- **Nominal scales**: thus is the lowest level of measurement, the scale with the least matching to the number system. Classification of variables is into unordered qualitative categories; for example the race variable in the current study. (Graziano and Raulin: 1998: 71);
- **Ordinal scales**: Classification into ordered qualitative categories; e.g., social class (I. II. III. etc.), where the values have a distinct order, but their categories are qualitative in that there is no natural (numerical) distance between their positive values. An example of ordinal scales in the current study is the job description of the respondents;
- **Interval**: When the measurement conveys information about the ordering of magnitude of the measurement and about the distance between the values. (Sekaran, 2003: 71);
- **Ratio**: These are measurements where there is equal distance between the numbers, as with interval scales, yet it also has an absolute zero. No ratio variables were included in the current study.
The current study made use of one instrument, designed specifically for the population targeted: the users of telecommunication services in the Border region. This measurement instrument took the format of a questionnaire. The following advantages to using questionnaires are also provided:

- It is possible to survey a broader population as surveys can be mailed;
- They are cheaper than one-on-one interviews;
- People may be more willing to be truthful because their anonymity is all but guaranteed.

### 6.5 Questionnaires

According to Leedy (1997) a questionnaire is a common instrument for observing data that are beyond their physical reach of the observers. The questionnaire used in this research paper was developed using information paint from the literature study. The questions were selected to address each of the factors that have an impact on a business model for SMMEs.

In order to improve reliability and accuracy in the target audience’s responses, the author took the following factors into consideration. The instructions to the question he must ensure that all respondents are treated equally. Good instructions can be maintained if there are down with clarity and courtesy.

Types of questions used in may be open or closed (Leedy, 1997). A close question is where responses are restricted to a small set of responses that generate precise answers. On the other hand open ended questions do not impose restrictions on the possible answer but is difficult to aggregate and computerised. Leading also postulates in a structured questionnaire must provide questions and that is an element of steering information for the respondent without any prompting from the researcher. The author focused on this approach when the questionnaire was designed.
Leedy (1997:196-197) states that there are key issues pertaining to questionnaire design. These are as follows:

- you sample and concise language;
- do not make unrealistic demands to those who will fill in the questionnaire;
- each question should ask about only one topic;
- each question should have no escape route, that is don’t know, no comment;
- each question should be polite;
- be straight forward and guard against double meanings;
- get the question order right;
- make the layout easy to follow;
- give clear instructions;
- test the questionnaire first.

The questionnaire should not be too long and complicated. A short and user-friendly layout is important to encourage the respondents to complete its. The questions chosen were a right down to the point and closed. A pilot was initially completed to test the questionnaire amongst several end users. On receipt, the responses of the pilot study were reviewed, questions that were vague and ambiguous word revised in order for it to be more user-friendly. Appendix A and B lists the research questionnaires used in this study.

The author decided to test two types of audiences, the end-user and corporate companies supplying SMMEs telecommunications products and services. The end users were to complete an online closed ended question questionnaire. The corporate representatives were requested by email to complete the questions. Open ended questions were posed to gain their views on the topic.

6.5.1 QUESTIONNAIRE OBJECTIVE

The motive behind testing the end-user is to establish if the SMME companies are perceived to be successful in their opinion and if the end user is prepared to support
local SMME telecommunication suppliers. The author also seeks to identify the decisions the end user will take into consideration when they support SMMEs. The questionnaire was emailed to recipients within the border region.

The reason the author decided to target the corporate suppliers was to establish their viewpoints on the position of SMMEs in the Telecom location sector. The author focused on the main and sub problems in the attempt to devise the appropriate questionnaires for both targeted audiences. Corporate representatives requested to complete the questionnaire included:

- Telkom SA;
- Vodacom;
- Internet Solutions – a Dimension Data subsidiary;
- MTN.

6.5.2 QUESTIONNAIRE DESIGN

Open ended questions were used during one-on-one interviews. The construction of the questionnaire airs proposed by Leedy and Omrod (2005:205) was used. A figure 6.2 describes the format on the questionnaire:

**Figure 6.2 Questionnaire design**

<table>
<thead>
<tr>
<th>Question</th>
<th>Why is the question asked?</th>
<th>How does it relate to the research problem?</th>
<th>Type Of Question</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Multiple choice</td>
<td>Yes/No answer</td>
<td>Open ended question</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Counter check</td>
<td></td>
</tr>
</tbody>
</table>

Source Leedy and Omrod (2005:205)
6.5.3 DATA COLLECTION
There is no simple answer as to which of the available methods of data collection the researcher should use when collecting data. There are however, three major criteria for evaluating a measurement tool (Cooper and Schindler 2003:231):

- Validity refers to the extent to which the test measures what we actually wish to measure;
- Reliability has to do with the accuracy and precision of a measurement procedure;
- Practicality is concerned with a wide range of factors of economy, convenience and interpretability.

The questionnaire was published on the Internet and accessed online. An introduction on the websites described the purpose of the research conducted. The results were manipulated electronically by means of an application designed to report the results in graphical and tabular format. The author acquired the application from Survey Gold, an online survey application (www.surveygold.com).

6.6 POPULATION SIZE
The population is defined as a collection of all the observations of a random variable tinder study and about which one is trying to draw conclusions in practice. A population must be defined in very specific terms to include only those units with characteristics that are relevant to the problem (Wegner 2003:5). The estimation of the sample size was influenced by the following principles:

- Research propositions;
- The variance within the population;
- The sampling technique.

The level of precision or in other words the level of sampling error one is willing to accept in a research also influences sample size. In reality the sample statistic is known but the population statistic is unknown, so, the difference between the sample and the
population value can be assessed in terms of the likelihood that a sample value differs by a certain value from the population value (Leedy, 2005:35).

Establishing a confidence level i.e. a range in which it is fairly certain that the population value lies does this. Moreover, precision is directly related to sample size. Larger samples are more precise than smaller ones. Probability theory enables the calculation of the sample size that would be required to achieve a given level of precision.

**6.7 DETERMINING THE POPULATION SIZE**

Taking the above factors into account 400 questionnaires was distributed. The survey was made available on the internet for online submission. A database of email addresses was compiled and a request the complete the questionnaire was sent to the target audience.

<table>
<thead>
<tr>
<th>Number distributed</th>
<th>Number returned</th>
<th>Percentage of total returned</th>
</tr>
</thead>
<tbody>
<tr>
<td>400</td>
<td>151</td>
<td>37.75%</td>
</tr>
</tbody>
</table>

A total of 400 questionnaires were distributed to the respondents and a total of 151 were completed. This means a population response rate of 37.75 percent.

Due to the current monopoly situation in the country, there are only a few telecommunications providers in the country. Questions were emailed to Telkom SA, Vodacom, Internet Solutions and MTN for response. The companies were selected based on their service deliveries to SMME telecoms providers in the Border region. Three out of the four respondents answered, indicating a 75 percent response. Questions asked are noted in Annexure B.

**6.8 VALIDITY AND RELIABILITY OF THE DATA**

Leedy (1997) states validity and reliability are terms used in connection with measuring instruments. The integrity of the research is based on the validity and reliability of that
piece of work and, as such, it is important that the work conform to the validity and reliability requirements.

6.9 VALIDITY
The validity of the measuring device is concerned whether it measures what it is intended to measure. Therefore, in this example of this study, does the questionnaire measure what it was intended to measure? (Leedy, 1997:32). The study revealed an accurate research because the requirements of a valid research were satisfied.

6.10 RELIABILITY
The reliability in a research project refers to the consistency with which the measuring device performs. Apart from delivering accurate results, the measuring instrument must deliver similar results consistently (Singleton, Straits and Straits, 1993:121). The author selected measurable questions which related to the literature study performed in the previous chapters which will also be relevant in establishing a business model for SMMEs in the telecommunications sector.

6.11 DESCRIPTIVE STATISTICS
Descriptive statistics used in the present study include frequency counts, mean scores, standard deviations and cross tabulations. Frequencies are defined by Kerlinger (1986:127) as the number of objects in sets or subsets. More simply, then number of times a certain answer appears in the data. The mean calculates an average across a number of observations and the standard deviation is the square root of the variance around the mean, in other words, how well the mean represents the data (Field 2005:6). A cross tabulation is a more advanced method of presenting frequency data. It presents the frequencies in a matrix. For instance: age in relation to job position.

6.12 CONCLUSION
Chapter six presented the methodology the author planned to use in order to observe the responses received in the surveys. Chapter seven discusses the empirical findings by means of Graphs, mean calculation and Cross tabulations.
CHAPTER SEVEN

EMPIRICAL FINDINGS

7.1 INTRODUCTION
The current chapter presents the empirical research findings of the study which focused on assessing obstacles in establishing a business model for SMMEs in the telecommunications sector in the Border region. The analysis is based on 151 responses out of the 400 questionnaires that were sent out.

Firstly the results of the “End user survey” are presented. The first section of these results presents the structure of this sample in terms of the demographic profile of the sample. The second section provides the profile of the end users in terms of their views on telecommunications in South Africa and in particular supporting SMME providers in the Border area.

Secondly the ‘Corporate suppliers” responses are represented. The results obtained from the respondents will assist the researcher in establishing the market space SMME providers can enter and provide services.

7.2 ANALYSIS OF THE RESULTS OF THE QUESTIONNAIRE
The complete results of the questionnaire are tabled in Annexure A.

7.3 BIOGRAPHICAL PROFILES OF THE RESPONDENTS
Respondents furnished their personal details in Section A. The information may further assist the researcher in developing and idea of the target market and how to define the SMME business level strategy.
7.4 SECTION A: DEMOGRAPHIC INFORMATION

This section used close-ended questions to gather information such as gender, age and work position. Participants were simply expected to click the space containing the applicable response. The questions in this section were in a multiple choice format which allowed participants to choose one or more alternatives in some instances. The rationale behind these demographic questions is that it places the results in a frame of reference and might provide insights into differences between demographic groups or correlation with regards to their behaviour when making decisions regarding supporting SMMEs in the telecommunications sector.

7.4.1 GENDER COMPOSITION

The sample consists of a total of 151 respondents, 76.2 percent male and 23.8 percent female as presented in table 7.4.1 below.

Table 7.1 Gender composition

<table>
<thead>
<tr>
<th>Male</th>
<th>115</th>
<th>76.2%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>36</td>
<td>23.8%</td>
</tr>
</tbody>
</table>

The average age of the respondents is 28 years old and older as presented in figure 7.1. The weighted average method was used to calculate the average age of the respondents. One respondent not owning a cell phone was discarded from certain measurements.

Figure 7.1 Descriptive information for Age (n=151)
Figure 7.2 Job functions of the respondents (n=151)

Table 7.2 Cross tabulation between age and job description (n=151):

<table>
<thead>
<tr>
<th>What is your age</th>
<th>Administration</th>
<th>Manager</th>
<th>Purchasing</th>
<th>Sales</th>
<th>Supervisor</th>
<th>Technical</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-30</td>
<td>6</td>
<td>13</td>
<td>1</td>
<td>3</td>
<td>22</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>31 and over</td>
<td>14</td>
<td>51</td>
<td>1</td>
<td>7</td>
<td>13</td>
<td>15</td>
<td>101</td>
</tr>
<tr>
<td>under 18</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>65</td>
<td>2</td>
<td>11</td>
<td>13</td>
<td>39</td>
<td>151</td>
</tr>
</tbody>
</table>

Table 7.2 indicates that most respondents older than 31 years fill managerial, supervisor and technical positions.

Table 7.3 Cross tabulation between: how long one owns a cell phone and if the number changed during the period (n=150)

<table>
<thead>
<tr>
<th>Has your cell number ever changed</th>
<th>No</th>
<th>Yes</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>If Yes how long have you had your phone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 1 year</td>
<td>3</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>1-2 years</td>
<td>5</td>
<td>11</td>
<td>16</td>
</tr>
<tr>
<td>more than 2 years</td>
<td>64</td>
<td>58</td>
<td>122</td>
</tr>
<tr>
<td>Total</td>
<td>72</td>
<td>78</td>
<td>150</td>
</tr>
</tbody>
</table>
Table 7.3 presents the cross tabulation between how long one owns a cell phone and if the number changed during the period. The researcher attempt to establish if the respondents switched between providers during the time they owned a cell phone. One respondent do not own a cell phone and the survey total was adapted to 150.

Table 7.4 Cross tabulation between: Do you pay your own cell phone account and do you pay for your own internet access (n=150)

<table>
<thead>
<tr>
<th>Do you pay your own cell phone account</th>
<th>No</th>
<th>Yes</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>22</td>
<td>9</td>
<td>31</td>
</tr>
<tr>
<td>Yes</td>
<td>42</td>
<td>77</td>
<td>119</td>
</tr>
<tr>
<td>Total</td>
<td>64</td>
<td>86</td>
<td>150</td>
</tr>
</tbody>
</table>

The cross tabulation in table 7.4 indicates that most respondents pay for both their cell phone and internet access. Cellular and Internet services will form part of the product mix SMMEs can consider, which then indicates the customer can purchase both services from one telecommunications provider.

Figure 7.3 If Your answer is No to question 8, how do you connect to the Internet (n=150)
Figure 7.4.3 indicates that 56 percent of respondents pay for their own Internet access. 30 percent use the internet at work, while the remainder 14 percent is sponsored. The result indicates that 84 percent of the respondents make use of a paid internet access service.

7.5 SECTION B: END USER BEHAVIOUR TOWARDS TELECOMMUNICATION SERVICES AND PRODUCTS

Figure 7.4 Are you eager and usually the first to try out new telecom’s technologies (n=150)

Figure 7.5 Are you prepared to pay a premium for new innovative technologies (n=150)
Question 10 and 11 indicates that the respondents are willing to adapt to new technologies, and to pay a premium for it. SMME providers can capitalise on their innovative ideas by taking new products to market.

**Figure 7.6 What is the size of the telecommunications company you support (n=150)**

![Pie chart showing the size of the telecommunications company supported by respondents.]

Most respondents support large telecommunications companies. The reason for this can be related to the sector being exposed to a monopoly regime the past decades.

**Figure 7.7 What is the reason for you current selection of telecommunications company - select all applicable reasons (n=150)**

![Pie chart showing the reasons for selecting a telecommunications company.]

Respondents value three categories highly when supporting their decision in choosing a telecommunications service provider: price, service and relationship.
Table 7.5 Cross tabulation between: What is your age and what is the reason for you current selection of telecommunications company (n=150)

<table>
<thead>
<tr>
<th>What is the reason for you current selection of telecommunications company</th>
<th>Other</th>
<th>Price</th>
<th>Product Brand name</th>
<th>Relationship with supplier</th>
<th>Service</th>
<th>Supplier’s brand name</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is your age</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 -30</td>
<td>18</td>
<td>24</td>
<td>4</td>
<td>12</td>
<td>19</td>
<td>3</td>
<td>80</td>
</tr>
<tr>
<td>31 and over</td>
<td>21</td>
<td>48</td>
<td>9</td>
<td>36</td>
<td>44</td>
<td>18</td>
<td>176</td>
</tr>
<tr>
<td>under 18</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>42</td>
<td>74</td>
<td>13</td>
<td>50</td>
<td>64</td>
<td>21</td>
<td>264</td>
</tr>
</tbody>
</table>

Table 7.5 indicates similar decision trends exists from ages 18 -30 and 31 and over.

Table 7.6 Cross Tabular Result: Job description and would you consider supporting a SMME telecommunications provider (n=150)

<table>
<thead>
<tr>
<th>Would you consider supporting a SMME telecommunications provider</th>
<th>No</th>
<th>Yes</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Description</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administration</td>
<td>2</td>
<td>18</td>
<td>20</td>
</tr>
<tr>
<td>Manager</td>
<td>11</td>
<td>54</td>
<td>65</td>
</tr>
<tr>
<td>Purchasing</td>
<td></td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Sales</td>
<td>3</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>Supervisor</td>
<td>1</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>Technical</td>
<td>2</td>
<td>37</td>
<td>39</td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
<td>131</td>
<td>150</td>
</tr>
</tbody>
</table>

Table 7.6 indicates a strong commitment from respondents to support SMME companies, especially from managerial and technical positions.
Table 7.7 Cross tabulation between: Would you consider supporting a SMME telecommunications provider and the most important factors the respondents considered in making the decision (n=150)

<table>
<thead>
<tr>
<th>Would you consider supporting a SMME telecommunications provider</th>
<th>No</th>
<th>Yes</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offering</td>
<td>15</td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>Price</td>
<td>8</td>
<td>43</td>
<td>51</td>
</tr>
<tr>
<td>Relationship</td>
<td>1</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>Service</td>
<td>10</td>
<td>63</td>
<td>73</td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
<td>131</td>
<td>150</td>
</tr>
</tbody>
</table>

Price and service forms the main criteria why the respondents will support SMME providers.

Figure 7.8 Do you prefer supporting a telecommunications company in the same town where you reside (n=150)

SMME providers can capitalise on their local presence in a particular town. Although 52.7 percent of the respondents don’t care where their service provider resides, they can form a part of the customer base, and in addition SMMEs can provide services outside their geographical area.
Figure 7.9 Are you satisfied with your current Service provider’s service delivery (n=150)

![Bar chart showing 58% satisfaction, 34.7% dissatisfaction, and 7.3% not sure.]

Figure 7.9 indicates that 34 percent of respondents are not satisfied with their current service provider. Through innovative product offering backed by excellent service and low prices, the market can be captured by SMMEs.

**Table 7.8 Cross tabulation between: Would you consider supporting a SMME telecommunications provider and are you satisfied with your current Service provider’s service delivery (n=150)**

<table>
<thead>
<tr>
<th>Are you satisfied with your current Service provider’s service delivery</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would you consider supporting a SMME telecommunications provider</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>No</td>
<td>5</td>
</tr>
<tr>
<td>Yes</td>
<td>47</td>
</tr>
<tr>
<td>Total</td>
<td>52</td>
</tr>
</tbody>
</table>

Respondents who are not satisfied with their current service provider indicated a strong willingness to switch to another SMME provider. Although most respondents indicated they are satisfied with their current service provider’s service delivery, the possibility of supporting another SMME company does exist.
7.6 SECTION C. THE RESPONDENTS OVERALL UNDERSTANDING OF THE TELECOMMUNICATIONS MARKET.

Figure 7.9 Do you consider the country to be still under a telecom’s monopoly regime (n=150)

The majority of respondents still consider the country to be under a monopoly regime in the telecommunications sector.

Figure 7.10 Do you consider telecommunications regulation in the country to be beneficial to the man on the street (n=150)

The respondents do not see regulatory measures and control from government as beneficial to the man on the street, but feel regulation is beneficial to the few corporate Telecommunication companies as described in Question 23. Question 24 tested the
respondents on the benefits of regulation towards smaller telecommunications companies and 68 percent agreed that it is not beneficial to the smaller players.

Figure 7.11 Do you think the government do enough to empower small telecom's companies (n=150)

Government’s initiatives to empower small telecoms companies is perceived to be a failure according to 82.7 percent of the respondents, while 15.3 percent is not sure about the situation.

Table 7.9 Cross tabular: How much are you prepared to pay monthly for Internet access and How much are you prepared to pay monthly for your call expenses (n=150)

<table>
<thead>
<tr>
<th>How much are you prepared to pay monthly for Internet access</th>
<th>Over R500</th>
<th>R100-R200</th>
<th>R200-R500</th>
<th>Under R100</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>How much are you prepared to pay monthly for your call expenses</td>
<td>Over R500</td>
<td>6</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>R100-R200</td>
<td>4</td>
<td>40</td>
<td>22</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>R200-R500</td>
<td>6</td>
<td>9</td>
<td>14</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Under R100</td>
<td>1</td>
<td>8</td>
<td>5</td>
<td>16</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>17</td>
<td>59</td>
<td>44</td>
<td>30</td>
</tr>
</tbody>
</table>
Responses received on Question 27 and 28 indicates similarities in willingness to pay fees towards cell phone and Internet costs in any particular price bracket where most respondents are prepared to pay between R100 and R200 per month per service.

7.7 CORPORATE RESPONSE

Due to the current monopoly situation in the country, there are only a few telecommunications providers in the country. Questions were emailed to Telkom SA, Vodacom, Internet Solutions and MTN for response. The companies were selected based on their service deliveries to SMME telecoms providers in the Border region. Responses received from the respondents had commonalities which will be combined into one response.

Question 1: Do you consider SMME telecoms companies to be successful and why?

The telecommunications industry in general is in a growth phase, as it has been for a number of years, attributing to the success corporate suppliers see in SMME telecoms providers.

In order to be successful, SMME organisations have to expand their field either to include telecoms, or expand from telecoms in an area where they provide somewhat of a niche.

Question 2: Can SMME telecoms companies build a successful business model in today’s telecoms landscape, and how?

With the still fairly recent advent of broadband and the relatively low penetration of internet services it is the right time to build a successful model. This, added to the fact that technology is changing globally at a rapid pace, alleviate room for growth in new ideas, new models, and new innovations.

Question 3: Where do you see telecoms SMME companies fit in the telecoms arena?

Two specific areas would be recommended:
**Innovation:** capitalising on the new trends: such as areas from communication changes, to Web 2.0 and user generated content, to mobility being a key to growth, and capture part of the growing market.

**Niche play:** identify areas of expertise and potentially verticals of expertise, where you are able to provide services in a sector you know well, and can represent. Further growth can be based on expanding the niche to a new niche rather than be everything to everyone.

**Question 4: What would you consider the most important area SMMEs providers should focus on to be successful in the telecoms market space?**

If you can’t be the lowest cost provider, then be the best. SMMEs will need to make a strategic decision on this, and put focus into achieving only one of the two:

If you are going to be the lower cost provider, you will need to make sure you are good, and efficient, and allow word of mouth to spread. In this instance, the best strategy would be to have a good supplier, know you efficiencies, and run in a more efficient manner than your ISP. Here the key would also be that the telecoms industry is in a good growth phase, and there is enough demand for many players to co-exist, so rapid growth while remaining efficient would be strategic key.

Hire good employees, but not staff that will add exceptional overhead. Seek personnel that will add efficiency to your business, and drive the message home internally that this is a key to SMMEs business success. This is about being smart running a business, simplifying what you offer, and making it relevant to your business. With the current growth look for economies of scale early, so as clients come on board, the SMME will become more and more profitable, not just more revenue generating.

If you chose to not be the lower cost provider, then innovation and knowledge need to be the focus point. The organisation will be based on a valuable commodity, knowledge, relationships, and history. More personnel will be needed for this choice of market penetration.
Value to differentiate on product, rather than price, should not only be provided in terms of being a niche player who understands their core values, but to compliment the telecom services with additional skills, as mentioned in question one. This implies to that SMMEs would struggle to provide the same services as a larger provider offers to a selected group if the smaller provider didn’t have an additional skill set to offer.

Examples of this would be if you offer a Broadband connectivity service for instance, offer it to a target market, for instance predominantly to home businesses. Support these businesses with website development, or listing services, or mobile credit card approval, or whatever the skill set you have in the vertical/niche. The idea is that the telecom service is an add on to the service at the best, or alternately add on the telecom service, slightly less ideal if the SMME has already been set up as a telecom provider, as the business then fundamentally changes.

There is a third option, and that is based on the market flux. An organisation may be set up as a strategy to be later bought out, which will change the focus again. This will happen in the market going forward, based on the change occurring all the time and it can be envisaged that organisations will merge.

**Question 5: Does your corporate business strategy include SMME telecoms providers as a part of this strategy, and how?**

All the respondents indicated that they have a reseller channel where pricing advantage is given in a number of ways, predominantly through better pricing, and also through the ability of the resellers to achieve bulk buying power where the sum of their services individually to their clients is less expensive than buying these individually. There are other areas, such as support, and support systems such as Access to the supplier’s networks to access core functions, like online training, reporting faults etc.
Question 6: What critical success factors would you consider when establishing a business model for SMMEs in the telecoms sector?

Efficiency in the business and a key understanding as to what the business-level strategy is. A clear vision and goals need to be set and personnel that supports the leadership. Innovation and efficiency is important.

Global awareness – making best use of trends locally and internationally to watch for shifts in the market, and being able to benefit from these. Examples would be that currently broadband pricing in general is dropping, and margins will get smaller for cost leaders, if this is the area, be aware of it, and have a route to follow where other providers are profitable – be ready for the changes, and lead some of them.

SMMEs need to understand their target audience, and offer them what they need in a simplified format. The customer is the key to the SMMEs success. Understand the cost of acquiring a customer, the life span revenue expected, and don’t spend more on this through their stay, but don’t lose them for a smaller amount than they are worth.

7.8 CONCLUSION
This chapter has presented the findings of the research survey. The results of the survey were analysed using the Survey Gold package for Windows version 8.0 which presented the statistical results in terms of frequencies and arithmetic means. Data was collected using a structured questionnaire for this study. The data has been analysed using techniques such as tabulation, correlation and statistical graphs. Chapter 8 will discuss the component of a business model for SMMEs in the telecommunications sector as well as suggestions for further research.
CHAPTER EIGHT

SUMMARY AND CONCLUSION

8.1 INTRODUCTION
This chapter discusses the findings in relation to research objectives and the propositions. A summary and overview of the research is then presented, followed by the shortcomings of the study, recommendations and additional research opportunities will be identified.

In the most basic sense, a business model is the method of doing business by which a company can sustain itself; that is, generate profitable revenue. The business model spells out how a company makes money by specifying where it is strategically positioned in the value chain.

Within the context of a business model for SMMEs in the telecommunications sector, it is evident from the study that the primary issue at hand evolves as defining a base on which such a model can be established. The Chapter focus on establishing a model from which further research can be conducted in defining a specialised business model matched to a specific business level strategy.

8.2 SUMMARY AND OVERVIEW OF THE RESEARCH
Chapter 1 presented the background to the research, followed by a problem definition and research objectives. The chapter was concluded with a research structure and discussion on the chapter layout.

Chapter 2 presented a literature review regarding the past and current situation regarding the and problems and status of the telecommunications sector in South Africa

Chapter 3 focused on regulatory aspects and the legal implications in the country. The new electronic communication acts was brought into context to support the research on establishing the business model.
Comparisons were drawn from Chapter 4 on telecommunications trends in other countries. Comparisons were based on Brazil due to the similarities between the country and South Africa.

Chapter 5 discussed specific opportunities and challenges SMMEs face in the current telecommunication market.

Chapter 6 focused on the empirical research phase. The empirical study consisted of primary data collected from an explorative structured electronic questionnaire gathering both qualitative and quantitative data. In addition, open ended questions were posed to the four major corporate telecommunication suppliers. The data was collated and the results represented.

Chapter 7 provided a discussion of the results obtained from an empirical investigation conducted how end users and corporate representatives perceive the telecoms space and their willingness to support SMME companies.

Chapter 8, the final phase and component of the research study, aimed at applying the information obtained from the literature study and the empirical study as background to provide a solution to the problems of establishing a Business Model for SMMEs in the Border Region.

8.3 PRIMARY OBJECTIVES
The primary objective is to determine a basis on which SMMEs can use establishing a business model in the telecommunications sector.

8.3.1 SECONDARY OBJECTIVES
In addition to the primary objective, the following factors need to be incorporates in designing the business model:

- Local Externalities influencing the SMME business model includes:
  - Licensing and ICASA compliance;
  - Compliance to the ECA;
  - Fast technological changes;
• Competition;
• Products and services;
• Adapting new technologies such as Voice over IP.

- Identify the key internal environmental aspects. Factors which pose potential problems in establishing a business model for SMMEs are:
  • Leadership;
  • Lack of resources;
  • Access to finance.

8.4 RECOMMENDATIONS
As a starting point, the business model can be seen as the profit engine of the business. The model can be distilled into a diagram showing the following elements of the proposed venture:

- how and where the business acquires cash from customers;
- how it uses its cash (tracks cash streams from clients and customers to the business and through the business to its suppliers);
- how products and services flow from suppliers and the business to clients and customers in the reverse direction and, finally;
- it shows how the business connects (through sales and marketing channels) with its customers.

8.5 THE COMPONENTS OF THE BUSINESS MODEL
Respondents indicated three areas where service providers can gain competitive advantage namely price, service and relationship. From the responses from the corporate representatives, it is evident that innovation and a clearly defined market space will be required to be successful. The following components are recommended for the business model:

- Value proposition - a description of the customer problem, the product that addresses the problem, and the value of the product from the customer's perspective;
• Market segment - the group of customers to target, recognising that different market segments have different needs. Sometimes the potential of an innovation is unlocked only when a different market segment is targeted;
• Value chain structure - the firm's position and activities in the value chain and how the firm will capture part of the value that it creates in the chain;
• Revenue generation and margins - how revenue is generated (sales, leasing, subscription, support, etc.), the cost structure, and target profit margins;
• Position in value network - identification of competitors, complementors, and any network effects that can be utilised to deliver more value to the customer;
• Competitive strategy - how the company will attempt to develop a sustainable competitive advantage, for example, by means of a cost, differentiation, or niche strategy.

In addition, based on the literature review and research findings, the design of a business model should also include:

• Strategic leadership including Entrepreneurial skills;
• Business level Strategy;
• Regulatory compliance;
• Business Plan;
• Financial tools.

**8.6 STRATEGIC LEADERSHIP**

With reference to both the literature review and the imperial findings, the business model should be formulated and supported by a strong entrepreneurial person or group of people. Strategic innovative leaders can structure their business model through:

• Effective leadership;
• Strategic intend and mission;
• Implementing successful strategic actions;
• Formulate strategies supporting their vision;
• Implement strategies;
• Achieve strategic Competitiveness and above average returns.

8.7 BUSINESS LEVEL STRATEGY
The business-level strategy is an integrated and coordinated set of commitments and actions the SMMEs will use to gain a competitive advantage by exploiting core competencies in specific telecoms markets. In selecting a business-level strategy, the SMME provider should determine:

• who it will serve;
• what needs those target customers have that it will satisfy;
• how those needs will be satisfied.

Innovation will be a key for survival in the country as telecommunications sector has just started to be subjected to true competition.

8.7.1 DIFFERENTIATION STRATEGY
Results in the surveys indicated a strong bias towards price and service as the decision criteria when the respondents select a telecommunications provider. Differentiation actions required by this strategy are:

• developing new systems and processes;
• shaping perceptions through advertising;
• quality focus;
• maximise human resource contributions through low turnover and high motivation.

The product selection and pricing strategy need to be aligned with the chosen business level strategy.
8.8 REGULATORY COMPLIANCE
Research in Chapter three indicated licensing classification in terms of specific service provision. The Electronic Communications Act (2005) is divided into three market structure classifications:

- Electronic Communications network services (ECNS);
- Electronic Communications services (ECS);
- Broadcasting services.

SMMEs are to include and apply for an appropriate class or individual licensing category to best fit their business model.

8.9 COMPETITION
Every business has competition. It might not be obvious or it might not be direct competition. Currently, competition is increasing in the telecommunications market in the country. In order to build a successful business model, competitors need to be identified. Strategies to compete in the same market should include:

- The strength of the competitors;
- Tactics to respond to their efforts;
- Why your tactics will succeed;
- Other things to consider are the competitor’s:
  - Image;
  - Product/service characteristics;
  - Financial strength;
  - Commitment to the market;

8.10 CRITICAL SUCCESS FACTORS
Research in Chapter 5 identified eight critical success factors for SMMEs to be successful and need to form a part of the business model:

- Target the right customers;
- Own the customer’s total experience;
Streamline business processes that impact the customer;
Provide a 360-degree view of customer relationship;
Let customers help themselves;
Help customers do their job;
Deliver personalised service;
Foster community.

8.12 VALUE ADDED SERVICE
Value added service is a tool SMMEs can use to gain competitive advantage. Free to market services like, free fax-to-email, free sms bundles, free spam filtering are all tools in the hand of the provider to own the customer’s total experience as well as adding value to their current product offering, whilst maintaining a low price.

This approach is used where external factors such as increased competition force companies to provide 'value' products and services to retain sales.

8.14 SUGGESTIONS FOR FURTHER RESEARCH
The author suggested a product differentiation strategy. The telecommunications market is becoming more competitive and expectations are that customers expect more value for their rand which in return put pressure on prices of telecommunication services.

Further research can be conducted includes:

- More detailed research is needed to focus on the business-level strategy of SMMEs to align their business model with the current market trends in the telecoms sector;
- The concept of business-to-business networking did not form a part of this research paper. Recommended research in this area will assist SMMEs to position themselves better in the market by means of networking between different service providers;
• An in-depth study on regulation and how to gain competitive advantage from the EC Act;
• Further research can also be conducted to determine what strategic alternatives can be implemented to assist SMMEs in their business ventures.

8.15 CONCLUSION
Unleashing the growth potential of the SMME in the telecommunications sector is often seen as a solution to South Africa’s job crisis and a means of increasing the growth rate. However, government’s efforts to support the telecommunications sector have so far been dismal and it is evident from the questionnaire responses that the end-user is aware that it affects the market as a whole. Until recently, the sector was dominated by a monopoly which was responsible for by high process and poor telecoms services.

Rather than overemphasizing costly interventions to support small enterprises, the state should focus on eliminating the barriers created by excessive regulation and the absence of effective markets. The introduction and implementation of the Electronic communications act is a step in the right direction. SMMEs have the opportunity to build a business model which can be sustainable and profitable.


Statement on Cabinet meeting issued by the Government Communication and Information System, 6 October 2004.


ANNEXURE A. SURVEY QUESTIONNAIRE AND RESULTS

MBA Dissertation Questionnaire

Results

Published: 2007/11/09
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Respondent Metrics 110

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2. What is your age 111
3. Into which of the following categories does your job description fall 111
4. Do you own a cell phone 111
5. If Yes how long have you had your phone 112
6. Has your cell number ever changed 112
7. Do you pay your own cell phone account 112
8. Do you pay for your own Internet access 112
9. If Your answer is No to question 8 how do you connect to the Internet 112
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11. Are you prepared to pay a premium for new innovative technologies 112
12. What is the size of the telecommunications company you support 113
13. What is the reason for you current selection of telecommunications company - click all applicable reasons 113
14. Would you consider supporting a SMME telecommunications provider 113
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16. If your answer is Yes to Question 14 and 15, what would you consider the most important factor supporting your decision 113
17. Do you prefer supporting a telecommunications company in the same town where you reside 114
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20. Do you consider existing SMME telecommunications companies to be in good financial position 114
21. Do you consider the country to be still under a telecom’s monopoly regime 114
22. Do you consider telecommunications regulation in the country to be beneficial to the man on the street 115
23. Do you consider telecommunications regulation in the country to be beneficial to corporate telecom’s companies 115
24. Do you consider telecommunications regulation in the country to be beneficial to smaller telecom’s companies 115
25. Do you think the government do enough to empower small telecom’s companies 115
26. How much are you prepared to pay monthly for Internet access 115
27. How much are you prepared to pay monthly for your call expenses 116
Survey Overview

Description
This survey is conducted in order to assist me to complete my research dissertation on SMME's in the Telecommunications sector in South Africa

Instructions Provided To Respondents
Good Day, my name is Marius Oberholzer and I am a final year student at the Nelson Mandela Metropolitan University completing my Masters degree in Business Administration (MBA).

Thank You for assisting me in my MBA research.

This survey is conducted in order to assist me to complete my MBA research dissertation on SMME's in the Telecommunications sector in South Africa. Your inputs are appreciated.

Please answer all questions. Kindly click your choice in the boxes.

Respondent Metrics
Respondents: 151
First Response: 2007/09/14 07:23 AM
Last Response: 2007/10/31 06:45 AM
## Survey Results

The following is a tabular depiction of the responses to each survey question. Additional comments provided by respondents, if any, are included after each table.

### Section - SMMEs in the telecommunications sector

<table>
<thead>
<tr>
<th>Question</th>
<th>Category</th>
<th>Percentage</th>
<th>Count</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Please indicate if you are</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td>76.2%</td>
<td>115</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td>23.8%</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td><strong>2. What is your age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31 and over</td>
<td></td>
<td>67.3%</td>
<td>101</td>
<td></td>
</tr>
<tr>
<td>18 -30</td>
<td></td>
<td>30.0%</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>under 18</td>
<td></td>
<td>2.7%</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td><strong>3. Into which of the following categories does your job description fall</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manager</td>
<td></td>
<td>43.3%</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>Technical</td>
<td></td>
<td>26.0%</td>
<td>39</td>
<td></td>
</tr>
<tr>
<td>Administration</td>
<td></td>
<td>13.3%</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Supervisor</td>
<td></td>
<td>8.7%</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Sales</td>
<td></td>
<td>7.3%</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Purchasing</td>
<td></td>
<td>1.3%</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td><strong>4. Do you own a cell phone</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td></td>
<td>99.3%</td>
<td>149</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td>0.7%</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
### 5. If Yes how long have you had your phone

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Number</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>81.3%</td>
<td>122</td>
<td>more than 2 years</td>
</tr>
<tr>
<td>10.7%</td>
<td>16</td>
<td>1-2 years</td>
</tr>
<tr>
<td>8.0%</td>
<td>12</td>
<td>&lt; 1 year</td>
</tr>
</tbody>
</table>

### 6. Has your cell number ever changed

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Number</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>52.0%</td>
<td>78</td>
<td>Yes</td>
</tr>
<tr>
<td>48.0%</td>
<td>72</td>
<td>No</td>
</tr>
</tbody>
</table>

### 7. Do you pay your own cell phone account

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Number</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>79.3%</td>
<td>119</td>
<td>Yes</td>
</tr>
<tr>
<td>20.7%</td>
<td>31</td>
<td>No</td>
</tr>
</tbody>
</table>

### 8. Do you pay for your own Internet access

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Number</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>57.3%</td>
<td>86</td>
<td>Yes</td>
</tr>
<tr>
<td>42.7%</td>
<td>64</td>
<td>No</td>
</tr>
</tbody>
</table>

### 9. If Your answer is No to question 8 how do you connect to the Internet

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Number</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>56.0%</td>
<td>84</td>
<td>Not applicable</td>
</tr>
<tr>
<td>30.0%</td>
<td>45</td>
<td>Work Access</td>
</tr>
<tr>
<td>8.7%</td>
<td>13</td>
<td>Sponsored</td>
</tr>
<tr>
<td>5.3%</td>
<td>8</td>
<td>Parents</td>
</tr>
</tbody>
</table>

### 10. Are you eager and usually the first to try out new telecom’s technologies

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Number</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>52.0%</td>
<td>78</td>
<td>No</td>
</tr>
<tr>
<td>48.0%</td>
<td>72</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### 11. Are you prepared to pay a premium for new innovative technologies

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Number</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>54.0%</td>
<td>81</td>
<td>No</td>
</tr>
</tbody>
</table>
12. What is the size of the telecommunications company you support

<table>
<thead>
<tr>
<th>Size</th>
<th>Percentage</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large</td>
<td>60.7%</td>
<td>91</td>
</tr>
<tr>
<td>Medium</td>
<td>17.3%</td>
<td>26</td>
</tr>
<tr>
<td>Not Sure</td>
<td>14.0%</td>
<td>21</td>
</tr>
<tr>
<td>Small</td>
<td>8.0%</td>
<td>12</td>
</tr>
</tbody>
</table>

13. What is the reason for your current selection of telecommunications company - click all applicable reasons

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price</td>
<td>28.0%</td>
<td>74</td>
</tr>
<tr>
<td>Service</td>
<td>24.2%</td>
<td>64</td>
</tr>
<tr>
<td>Relationship with supplier</td>
<td>18.9%</td>
<td>50</td>
</tr>
<tr>
<td>Other</td>
<td>15.9%</td>
<td>42</td>
</tr>
<tr>
<td>Supplier's brand name</td>
<td>8.0%</td>
<td>21</td>
</tr>
<tr>
<td>Product Brand name</td>
<td>4.9%</td>
<td>13</td>
</tr>
</tbody>
</table>

14. Would you consider supporting a SMME telecommunications provider

<table>
<thead>
<tr>
<th>Support</th>
<th>Percentage</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>87.3%</td>
<td>131</td>
</tr>
<tr>
<td>No</td>
<td>12.7%</td>
<td>19</td>
</tr>
</tbody>
</table>

15. Will you support a new startup SMME telecommunications company

<table>
<thead>
<tr>
<th>Support</th>
<th>Percentage</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>75.3%</td>
<td>113</td>
</tr>
<tr>
<td>No</td>
<td>24.7%</td>
<td>37</td>
</tr>
</tbody>
</table>

16. If your answer is Yes to Question 14 and 15, what would you consider the most important factor supporting your decision

<table>
<thead>
<tr>
<th>Factor</th>
<th>Percentage</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service</td>
<td>48.7%</td>
<td>73</td>
</tr>
<tr>
<td>Question</td>
<td>Percentage</td>
<td>Number</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>------------</td>
<td>--------</td>
</tr>
<tr>
<td>17. Do you prefer supporting a telecommunications company in the same town where you reside</td>
<td>52.7%</td>
<td>79</td>
</tr>
<tr>
<td></td>
<td>45.3%</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td>2.0%</td>
<td>3</td>
</tr>
<tr>
<td>18. Do you prefer supporting a telecommunications company in nearest town where you reside</td>
<td>58.7%</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td>32.7%</td>
<td>49</td>
</tr>
<tr>
<td></td>
<td>8.7%</td>
<td>13</td>
</tr>
<tr>
<td>19. Are you satisfied with your current Service provider’s service delivery</td>
<td>58.0%</td>
<td>87</td>
</tr>
<tr>
<td></td>
<td>34.7%</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>7.3%</td>
<td>11</td>
</tr>
<tr>
<td>20. Do you consider existing SMME telecommunications companies to be in good financial position</td>
<td>50.0%</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>36.7%</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td>13.3%</td>
<td>20</td>
</tr>
<tr>
<td>21. Do you consider the country to be still under a telecom's monopoly regime</td>
<td>83.3%</td>
<td>125</td>
</tr>
<tr>
<td>Percentage</td>
<td>Count</td>
<td>Response</td>
</tr>
<tr>
<td>------------</td>
<td>-------</td>
<td>----------</td>
</tr>
<tr>
<td>8.7%</td>
<td>13</td>
<td>No</td>
</tr>
<tr>
<td>8.0%</td>
<td>12</td>
<td>Not sure</td>
</tr>
</tbody>
</table>

22. Do you consider telecommunications regulation in the country to be beneficial to the man on the street

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Count</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>71.3%</td>
<td>107</td>
<td>No</td>
</tr>
<tr>
<td>18.0%</td>
<td>27</td>
<td>Not sure</td>
</tr>
<tr>
<td>10.7%</td>
<td>16</td>
<td>Yes</td>
</tr>
</tbody>
</table>

23. Do you consider telecommunications regulation in the country to be beneficial to corporate telecom’s companies

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Count</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>43.3%</td>
<td>65</td>
<td>Yes</td>
</tr>
<tr>
<td>30.0%</td>
<td>45</td>
<td>No</td>
</tr>
<tr>
<td>26.7%</td>
<td>40</td>
<td>Not sure</td>
</tr>
</tbody>
</table>

24. Do you consider telecommunications regulation in the country to be beneficial to smaller telecom’s companies

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Count</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>68.0%</td>
<td>102</td>
<td>No</td>
</tr>
<tr>
<td>24.7%</td>
<td>37</td>
<td>Not sure</td>
</tr>
<tr>
<td>7.3%</td>
<td>11</td>
<td>Yes</td>
</tr>
</tbody>
</table>

25. Do you think the government do enough to empower small telecom’s companies

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Count</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>82.7%</td>
<td>124</td>
<td>No</td>
</tr>
<tr>
<td>15.3%</td>
<td>23</td>
<td>Not sure</td>
</tr>
<tr>
<td>2.0%</td>
<td>3</td>
<td>Yes</td>
</tr>
</tbody>
</table>

26. How much are you prepared to pay monthly for Internet access

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Count</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>49.3%</td>
<td>74</td>
<td>R100-R200</td>
</tr>
<tr>
<td>22.7%</td>
<td>34</td>
<td>R200-R500</td>
</tr>
<tr>
<td>Percentage</td>
<td>Count</td>
<td>Monthly Expense Range</td>
</tr>
<tr>
<td>------------</td>
<td>-------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>20.0%</td>
<td>30</td>
<td>Under R100</td>
</tr>
<tr>
<td>8.0%</td>
<td>12</td>
<td>Over R500</td>
</tr>
</tbody>
</table>

**27. How much are you prepared to pay monthly for your call expenses**

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Count</th>
<th>Monthly Expense Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>39.3%</td>
<td>59</td>
<td>R100-R200</td>
</tr>
<tr>
<td>29.3%</td>
<td>44</td>
<td>R200-R500</td>
</tr>
<tr>
<td>20.0%</td>
<td>30</td>
<td>Under R100</td>
</tr>
<tr>
<td>11.3%</td>
<td>17</td>
<td>Over R500</td>
</tr>
</tbody>
</table>

**28. Do you think lower telecommunications cost will have a positive impact on your business**

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Count</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>80.0%</td>
<td>92</td>
<td>Yes</td>
</tr>
<tr>
<td>16.5%</td>
<td>19</td>
<td>Not applicable</td>
</tr>
<tr>
<td>3.5%</td>
<td>4</td>
<td>No</td>
</tr>
</tbody>
</table>
ANNEXURE B. CORPORATE QUESTIONNAIRE

From: Marius Oberholzer [mailto:marius@sainet.co.za]
Sent: 07 November 2007 02:05 PM
To: Andrew Simpson; Powels, Paul: Malatsi, Mogudi; Majola, P.
Subject: MBA dissertation request

Dear respondent,

I’m currently finalising my MBA degree dissertation and desperately need your inputs regarding SME’s in the telecommunications sector.

Apart from an end-user survey, I decided to ask Corporate Telecoms companies to comment on their views in establishing a business model for SMEs in the telecommunications sector. My deadline is Friday, 9 November and I would appreciate if you can return the answers by then.

Could you kindly answer the following questions. Please supply reasons for your answers.

1. Do you consider SME telecoms companies to be successful and why?
2. Can SME telecoms companies build a successful business model in today’s telecoms landscape, and how?
3. Where do you see telecoms SME companies fit in the telecoms arena?
4. What would you consider the most important area SMEs providers should focus on to be successful in the telecoms market space?
5. Does your corporate business strategy include SME telecoms providers as a part of this strategy, and how?
6. What critical success factors would you consider when establishing a business model for SMEs in the telecoms sector?

Your assistance in this regard is appreciated

Regards,

Marius Oberholzer