

The Viability of Under-Serviced Area Licensees in South Africa: a Factor Analysis

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Abstract

In 2001, Under-Serviced Area Licence (USAL) policy was introduced in South Africa. The basic objective and requirement of USAL policy is that all Private Telecom Operators (PTOs) should increase telecommunication penetration rate in their areas of operation by building and developing their own telecommunication network and providing access for those who do not have access to Information and Communication Technologies (ICT). In South Africa, while government has spent a lot of money and time to implement USAL policy, it does not appear that the first group of USALs have been successful.

The purpose of this research is to analyse the factors affecting the USAL policy, and to suggest possible ways that both private and public sectors can undertake to improve the effectiveness of USAL policy as well as the viability of USAL policy in South Africa. A qualitative research approach was used and semi-structured interviews were conducted to collect data. Eight persons from policy-making level, USAL business, and academic institutions were interviewed. Besides semi-structured interviews, a literature review was used to obtain secondary data in order to address possible gaps and the limitations of the interviews.

The research reveals the following key findings: (i) the lack of capability to implement USAL; (ii) inadequate financial and infrastructural support from the state; (iii) a lack of co-ordination among stakeholders in the public sector, private sector, policy-makers, analysts and USAL business owners; and (iv) lack of co-operation within the private sector. The research also makes recommendations to strengthen USAL policy and suggests possible further research.

Declaration

I, Li Hao, declare that this report is my own, unaided work. It is submitted in partial fulfilment of the requirements of the degree of Master of Management (in the field of Public and Development Management) to the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination to any other University.

LI HAO

Dedication

To my wife – without her love, understanding and support this research would never have been possible.

To my parents, for always believing in me and creating in me a passion to achieve success.

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LIST OF ACRONYMS

BEE	Black Economic Empowerment
BT	British Telecom
DOC	Department of Communication
EC Act	Electronic Communications Act
HDG	Historically Disadvantaged Groups
ICASA	Independent Communications Authority of South Africa
ICT	Information and Communication Technologies
I/O	Rate Investment/Outcome Rate
NTCA	National Telecommunications Co-operative Association
PTO	Private Telecommunications Operators
RSA	Republic of South Africa
SNO	Second National Operator
UA	Universal Access
US ¹	Universal Service
USA ²	Universal Service Agency
USAL	Under-serviced area licence
USF	Universal Service Fund
VANS	Value Added Network Services

¹ In this study, US stands for Universal Service.

² In this study, USA stands for Universal Service Agency.

Chapter 1

INTRODUCTION

This document is a research report for an exploratory study that looked into the factors that affect the viability of the USAL policy in South Africa. This chapter provides some insight into why this topic needed to be studied and highlights the boundaries of the study. It also presents an overview of the theoretical framework that informs the study.

1.1 General background

Information and communication technology (ICT) has brought a much deeper and wider influence to our world than any other technological advance in history. ICT provides an easier and more equitable way to obtain and share information and knowledge. Those who have access to ICT can be empowered with the abilities and opportunities to develop faster economically. The opposite is also true. Those who have no access to ICT have few opportunities to grow and develop and are at a disadvantage. The gap between developed and less-developed communities, those who have access and those who have no access continues to widen. “Disparities between the connected information elite and a large majority of information poor” is called the “digital divide” (Benjamin, 1999). South Africa has been facing the digital divide since 1994, mainly because of disparity between the rapid development of the rich global community and the very slow development of the poor global community in ICT expansion. This gap is still widening and is of great concern to policy-makers (Lewis, 2006c).

Teledensity is the most common measure of telephone penetration in a country, measuring the number of telephones per 100 inhabitants. It is the easiest statistic to collect and is most often used to compare different areas. However, it pays no regard to telephone usage and who has access (Benjamin & Dahms, 1999: 3).

Currently South Africa's telecommunication penetration rate is 12% in urban areas. This is the highest telecommunication penetration rate in Africa, with 70% of the total fixed lines on the whole African continent, almost the same level as North America and Western Europe (Lewis, 2006c). In urban areas of South Africa, 64% of households have telecommunication service; in non-urban areas this percentage is significantly lower. Rural and underdeveloped areas in South Africa have a similar penetration to that of other African countries: only 9% (Lewis, 2006c), and the gap appears to be widening.

In their 2005 study on ICT access and usage, Gillwald and Esselaar (2005:22) state that South Africa has the highest mobile penetration in Africa at 32%, a figure similar to the combined figure of nearly 18 million subscribers on all three networks provided by operators for active subscribers. This is followed closely by Botswana at 23%, Zambia at nearly 18% and Namibia at over 12%. Tanzania fits between these two groups of countries with a mobile penetration of 9%. On average, 46.9% of households in South Africa have access to telecommunications, both fixed and mobile. This figure is lower than the average for other lower middle-income countries, which average household penetrations of 49.4%. Table 1.1 shows the comparative ICT indicators in some African countries (Gillwald, Esselaar, Burton & Stavrou, 2005: 132).

Table 1.1 Comparative ICT Indicators in Africa

Country	Mobile penetration – pre-paid (%)	Email penetration - subscribers	Fixed line penetration (%)	Payphone % (used in the last 3 months)
Botswana	20.7%	2.8%	22.4%	65.6%
Ethiopia	0.3%	0.1%	5.1%	29.7%
Namibia	11.3%	1.6%	14.0%	52.6%
Rwanda	6.8%	5.3%	4.4%	65.2%
South Africa	29.9%	5.2%	22.1%	70.6%
Tanzania	9.0%	2.4%	6.1%	30.5%
Uganda	2.3%	0.3%	0.7%	36.1%
Zambia	15.8%	5.6%	18.6%	56.4%

Source: Gillwald & Esselaar (2005:20).

However, most telephones are predominantly located in urban, historically white, residential and business areas. Rural areas mostly occupied by blacks continue to have tele-densities in line with the rest of rural Africa, or around 1%. The difference in ICT access is not only an obstruction in realising equality and democracy in South Africa, but also an obstruction to economic development (Lewis, 2006c).

The government of South Africa therefore proposed the use of subsidies to stimulate private investment for historically disadvantaged groups (HDG) and women in the telecommunications industry (Lewis, 2006c). Improving the universal telecommunications access in under-serviced rural areas will help the government to achieve this aim and the private investors from disadvantaged groups will graduate into the high profit industry.

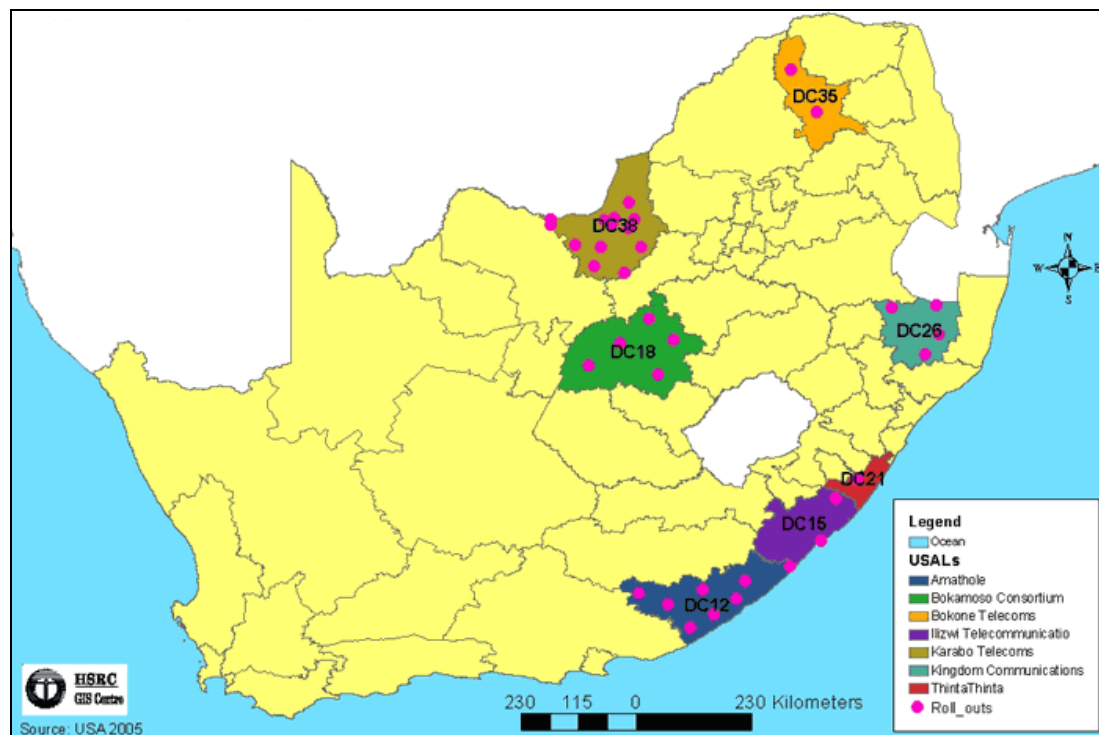
This study explores the viability of under-serviced area licence (USAL) policy which started in 2001, examines the current status of USAL policy and analyses all factors which affect the operation of the current USAL policy in South Africa. The aim is to provide recommendations for policy improvement and to offer suggestions for further research. First a brief background of USAL policy will be presented, followed by a research design with dissemination strategies and a management plan for the period of research.

1.2 Problem statement

By the end of May in 2006, almost two years after the first group of seven PTOs received USAL licences (Figure 1.1), none had installed any telecommunications networks to provide extended telecommunications service coverage and access. Only a few of them, such as Bokamoso Communications (B-Tel) and Thinta Thinta Telecoms (T3), have supplied telecommunication services by signing a roaming agreement with mobile operators in order to use the mobile networks to service the Private Telecommunications Operators (PTO) own subscribers. However, the coverage of telecommunications services has not increased in these areas. 'The seven companies with under-serviced area licences (USALs) are not yet operating their own networks, says Independent Communications Authority of South Africa (ICASA) USAL unit manager, Phineas Molele' (Mngcungusa, 2005). After spending the R5 million

subsidy, how can the PTOs find a sustainable business model? It is obvious that the USAL policy has not yet achieved its objectives.

Figure 1.1 Map of Under-served Area Licences



Courtesy of HSRC

Under-served area licensees (USALs) experience a number of challenges, including the misuse of their annual R5 million subsidies for operational, rather than infrastructure expenditure, the Universal Services Agency (USA) told Parliament on 7 March 2006. Government should make a plan to ensure that the rural areas are connected to the information society (Vecchiatto, 2006). The policy was unable to supply any more telecom service delivery to the under-served areas using this policy. Few Historically Disadvantaged Groups (HDG) have been able to run a sustainable USAL business when started with their own network. If they do not have their own network, it is difficult for HDGs to compete with established companies that already have market share and their own networks. All these factors add to the challenge of the USALs. It is therefore not feasible to assume that the USAL policy is successful.

1.3 Purpose of the study

The USAL policy is currently in implementation with the aim of improving universal telecommunication access in South Africa. Thus, the purpose of this research is to

analyse the factors affecting this policy and indicate the possible ways that both the private and public sectors can improve the effectiveness of USAL policy as well as its viability. Such improvements will hopefully contribute to the development of South Africa's economy, and have an impact in building equitable economic development. The study investigated the factors which affect the viability of Under-Serviced Area License in South Africa in the period 2001 to 2007.

1.4 Research Question

The research investigated the reasons, issues and factors that led to the current situation regarding USAL policy, and analysed related aspects of this policy. It attempted to answer the question:

- Under the current situation and conditions in South Africa, what are the governmental factors that have an impact on the viability of the USALs?

To support the main question, the following sub-questions were posed:

1. What factors undermine the success of USALs?
2. What factors support USALs' viability?
3. How do these factors work together to affect the USALs?

The study focuses only on the governmental factors mainly because of time and financial constraints facing by the researcher.

1.5 Delimitations and limitations

The researcher is a full-time staff member of a for-profit telecommunications company which operations in urban areas. To investigate the business model, the habits and activities of the users in the rural area, it is indispensable to have a deeper knowledge of the way business is done, in addition to the actual telecom usage in the rural areas. Therefore it is reasonable to limit the area of study to the governmental factors that influence the successful implementation of USAL policy. Moreover, the researcher is from a country in which culture and attitude towards work are quite different from that of South Africa, and the researcher was mindful of these differences while analysis was conducted.

Detailed suggestions on a viable universal service model and improvement of USAL policy actually depends on the detailed analysis of the cost-effective comparison, user's habit model, income and expense statistics, forecast of business development, financial model. It was an extensive data collection and analysis task and required much time and additional human resources to complete. Current research work in this area is limited, and this impacted on the study as there were not many resources available. This indicates the possible way forward for USAL policy, and suggests further research topics.

1.6 Significance of the study

As one of the legacies of apartheid, today South Africa has two economies: the first economy is “modern and produces the bulk of the country's wealth and is integrated within the global economy”, whilst the second economy “is characterised by underdevelopment, contributes little to the GDP, contains a big percentage of the population, incorporates the poorest of the rural and urban poor, is structurally disconnected from both the first and the global economy and is incapable of self-generated growth and development” (Pressly, 2003).

The impact of ICT development on the economy is much deeper and wider than the impact of any other technical progress. Normally businesses and people in the first economy have easier access to ICT than underdeveloped groups and businesses in the second economy do. Such a technological gap is named the “digital divide”. Because of continuous progress of ICT industry, the digital divide between the first economy and the second economy is widening. Easy access to ICT provides people with opportunities to develop, an advantage that is lost to those with limited access to ICT.

Narrowing the digital divide is essential to ensuring success in the secondary economy. With developed IT technology, people have an easier and more equal way to get, exchange and share information and knowledge. In the same way, by improving the universal telecommunications access in under-serviced rural areas, the businesses and people in the second economy will have the opportunity to graduate into the first economy.

The South African government is trying to solve the unemployment problem, but to decrease the current unemployment rate, annual growth rate of the Gross Domestic Product (GDP) has to be 6 per cent. The second economy plays a vital role in reaching that GDP growth target.

During this process, wide-reaching development of the telecommunications industry in the underdeveloped areas will not only contribute to the second economy directly, but will also assist other aspects of economic development. So far, the government has spent a lot of money and time to try to make USAL policy work as expected.

Currently there is no proof of success from the first group of USALs, i.e., Amathole, Bokone Telecoms, Llizwi Telecommunications, Karabo Telecoms and Kingdom Communication. There are many arguments and discussions about the feasibility of USAL policy, but few conclusions. No adjustment has been made to USAL policy and the funding process. It would be useful to conduct a detailed analysis and evaluate the factors which affect the viability of this policy and indicate how to improve USAL policy. By revealing the factors that undermine USAL policy implementation, and by providing the experiences and suggestions of the stakeholders who are involved in the USAL project, this study intends to make a contribution that will inform policy-makers and policy for successful implementation, in order to fulfil the basic objectives and requirements of USAL policy.

1.7 Outline of the research report

Chapter One presents the introduction, background, problem statement, and the purpose of the research report. It also provides a summary of the research and the significance of the study. Chapter Two reflects a thorough review of the literature on implementation of USAL policy in the United Kingdom, the United States of America, Chile, Bolivia and South Africa. Chapter Three provides the methodology used in this study as well as the manner in which data was organised, categorised and analysed. Chapter Four presents the analysis and findings of the study. Chapter Five presents some conclusions as well as recommendations for future research and also for the USAL process.

The purpose of this study is to examine the factors affecting the viability of the Under-Serviced Area Licence (USAL) policy in South Africa. Semi-structured interviews were conducted with nine respondents who are currently involved in the process of USAL policy.

Chapter 2

LITERATURE REVIEW

This chapter introduces the reader to the various explanations of factors that affect the viability of USAL policy. Firstly a background introduction of USAL policy is presented. Secondly the international experiences in implementation of USAL policy are discussed. The aim of this chapter is to create an understanding of the theory in order to analyse the empirical findings.

This section reviews previous literature about the USAL policy and its viability in the experiences of different countries such as the United Kingdom, the United States of America, Chile and South Africa. The literature review provides information about various aspects of USAL policy and indicates possible ways to assess and analyse the lessons and experience. Given that changes in the telecommunications industry are so rapid, the study has highlighted the most recent status. From the literature, it is learned that the reasons for not having achieved USAL's policy goals include lack of ability to implement the policy, lack of consultation and support from other stakeholders like investors and suppliers, and absence of involvement by certain important interest groups. Other problems pinpointed in the analysis include a need for much more human resources development, and little sharing of information between teams, because of a limited internal communications process.

In the following section, the concept of Universal Service and Access is presented, then different views of supporters, gradualists and sceptics on the USAL policy. The summary and limitations of literature review will then be discussed.

2.1 The concept of Universal Service and Access

The concept of universal service and access in the telecommunications industry was originally used by AT&T, 'One System, One Policy, Universal Service' in 1907 (Lewis, 2006a). This means that operators have a monopoly and provide the universal service as a return. This concept includes the aspects of availability, accessibility and affordability of telecommunications services to all citizens.

From the 1980s on, the wave of privatisation and the opening up of the market in the telecommunications industry has led to the new challenge of universal service. Recent deregulation and liberalization of the telecommunications sector has forced policy-makers to resort to new market-based solutions to solve the problems associated with universal service (Duwadi, 2003: 6).

One suggested model is from the United Kingdom (UK). After British Telecom (BT) was privatised in the 1980s, the UK regulator considered whether BT needed funding support from government to provide universal service. After a cost-benefit calculation for universal service, the regulator decided that it was not necessary to give BT funding support. That meant BT still had the universal service obligation under the competitive market. ‘...the total intangible benefits (£102m to £151m) were estimated to exceed the total net cost (£45m-£65m)... the USO (universal service obligation) is not an unfair burden on BT’ (Intven, 2000).

However, most countries chose another way of funding support to realize the objective of universal service and access. One example is Chile, which was one of the earliest countries in Latin America to open its markets and privatise the telecommunications industry. In 1994, under the financial support of government, the telecommunications development fund was established to subsidize the private operators installing public phones in non-service, low income and rural areas with an exclusive licence (Intven, 2000). This policy is widely considered to be very successful and led to one of the fastest increases of telecommunications penetration rate in the world during the 1990s. ‘This programme resulted in the proportion of Chile’s population living in places without access to basic voice communication decreasing from 15% to 1% in 2002’ (Gillwald, 2002:5).

Since 1996, South Africa has funded projects with the aim to increase telecommunication access in under-serviced areas. After considering successful models from other countries, South Africa adopted a similar model, but incorporating aspects of BEE (Black Economic Empowerment) policy. In the second round of telecommunications reform in South Africa in 2001, USAL policy was introduced. ‘These licences have two major public interest imperatives. The first is to increase

access to telephone services... Secondly, they are aimed at bringing small business and particularly historically disadvantaged groups into a sector from which they have been excluded' (Gillwald, 2002:2).

Since the inception of USAL policy, critical analysis and argument about this policy have been ongoing, and including all aspects of USAL policy such as multiple-imperative, capacity-building, market principles in the telecommunications industry, the preparation and implementation process of issuing the licences, interconnection and regulation policy, technical and financial support, evaluation criteria, and monitoring and evaluation systems. There are three main subsets in the discussion. In the following section the views of advocates, gradualists and sceptics with regard to USAL policy will be presented.

2.2 USAL policy background and implementation

This section is a brief introduction to the background and implementation status of USAL policy in South Africa. Various studies such as Benjamin (1999), Duwadi (2003), Dahms (1999) and Gillwald (2006) have shown that the telecommunications service has become one of the most important basic requirements of daily life. While access to food, water and housing is important for survival, access to information helps citizens to improve the quality of their lives. Information and communication technologies (ICT) provide an easier and more equitable method to obtain, exchange or share information and knowledge (Benjamin, 1999).

Universal Service (US) and Universal Access (UA): The two concepts of universality in the telecommunications sector are Universal Service (US) and Universal Access (UA). Universal Service (US) is commonly used in developed countries and refers to the supply of telecommunications connections to all householders. 'Universal Service (US) generally focuses on promoting or maintaining "universal" availability of connection by individual households to public telecommunications networks. Universal Service (US) is a practical policy objective in many industrialized countries' (Intven, 2000:1). Universal Access (UA) is often used in less-developed countries with the intention to give all citizens available access to a

phone, usually done through provision of public phones. 'UA is a more practical policy objective in developing countries' (Intven, 2000:1).

South Africa's Telecommunication Penetration Rate: In South Africa, the telecommunications penetration rate is low in underdeveloped areas, which impedes the access of knowledge and information. This in turn impacts on the development of the second economy. Because of the underdeveloped economy, money that can be spent in telecommunications service is limited (Lewis, 2006c). The I/O (investment/outcome) rate of telecommunications infrastructure in the underdeveloped areas is neither economical nor sustainable, and telecommunications service suppliers are thus not interested in investing in these areas. It becomes a vicious circle, since both economic development and telecommunications service delivery should be priorities. In fact the development of telecommunications service delivery is fundamental to economic development. Telecommunications is like a wealth creator. USAL policy was designed to break this circle through government subsidies.

Therefore, 'access to communications (especially a telephone service) is considered as a right.' Unfortunately, not every person can access communications. The people who have access to ICT are empowered with the abilities and opportunities for development. Others who do not have access to ICT are disadvantaged. In general, high income groups have access to ICT much more easily than lower income and poor groups, so the gap between the high income and lower income groups tends to widen. This is called the 'digital divide', i.e. "disparities between the connected information elite and a large majority of information poor" (Benjamin, 1999). South Africa is now facing the challenge of the "digital divide". To reduce this inequality and broaden democracy in South Africa, as well as to strengthen economic development, these gaps in ICT access must be reduced.

As a developing economy, South Africa has not made fixed line telecommunication widely available since the focus was mainly on Universal Access (UA). According to Charley Lewis (2006c), in South Africa mobile teledensity is more than triple fixed line teledensity (UA implications). He estimates that in 2006, Universal Access in South Africa was 91% and Universal Service was 42% (Lewis, 2006c).

The Independent Communications Authority of South Africa (ICASA) states that ‘access to basic telephony is a human right and by 2010 there should be a telephone within a 500 metres radius and each household should have access to telephony’ (Senne, 2005). To attain this aim, the Telecommunications Act (RSA, 1996) was promulgated. To empower under-serviced areas through access to, and the capacity of, ICT, the universal service agency (USA) and universal service fund (USF) were established in 1997. All telecommunications operators (including fixed and mobile) grant 0.5% of their annual revenue, together with the government budget, to support the USF (RSA, 1996). The USA intended to use USF to support the targeted population to defray the higher cost of telecommunications services directly or support different projects directly, to build access and capacity of ICT in under-serviced areas and communities (Intven, 2000:51).

However, the implementation of this policy was not effective enough to fulfil the objectives. There are many reasons. One reason is that these separate projects did not have a systemic approach to solving the problems of all under-developed areas. Another reason was that the application process of the USF was complex. Therefore, government wanted to improve the policy relating to universal telecom service: ‘In a policy move in line with the increasing number of success stories in other parts of the world, the South African government has allowed for the introduction of smaller-scale participants into the telecommunications market to provide services in under-serviced areas’ (Gillwald, 2002).

During the past decade (from 1994 to 2004), the South African telecommunications sector has been in a process of “managed liberalisation”. In 1997 Telkom was partly privatised and sold one third of its shares to international investors. To fulfil the new shareholders profit expectations, Telkom suspended a sizeable number of fixed lines for non-payment. The second national operator (SNO) was still under consideration. The number of fixed line telecommunication users in South Africa thus remained at the same level for several years whilst other countries developed rapidly. The digital divide widened. In urban areas of South Africa, 64% of households had telecommunications services while in non-urban areas, this percentage was significantly lower at only 9% (Lewis, 2006c).

The Telecommunications Amendment Act (No. 64 of 2001) intended to change this trend. Some important amendments were introduced to several items of the Telecommunications Act 103 of 1996. One of these amendments is the insertion of section 40A in Act 103 of 1996, the under-serviced area licence (USAL). Several licences were planned to issue to small operators in under-serviced areas to deliver telecommunications and information access services. The main issues were:

1. The Minister of Communication should determine the geographical areas where telecommunications density is less than 5% and the Independent Communications Authority of South Africa (ICASA) will grant the under-serviced areas licence (USAL).
2. Applications for USAL licences from historically disadvantaged groups (HDG) and women should be an important consideration.
3. The USAL shall provide any telecommunications services, including voice over internet protocol services (VOIP), fixed-mobile services and public pay telephones, in respect of the area to which the licence applies.
4. USAL can only be applied for by small businesses, and existing operators are not allowed to apply or have any share.
5. No group or individual is allowed to apply for more than one USAL licence (RSA, 2001, Insertion of section 40A in Act 103 of 1996).

In 2002, the Department of Communication (DOC) determined 26 geographical areas in which to issue the USAL licences. The scale of these areas is from one thousand to ten thousand square kilometres with a population size of between one hundred thousand and one million.

As the authority, ICASA undertakes the work of specifying detailed requirements, standards, and implementation regulations for USAL policy. The responsibilities of ICASA include the preparation of the bid documents, organizing the bid process, regulating criteria, evaluating applicants, and submitting recommendations to the minister of communications. The Authority may issue an under-serviced area licence to a small business on application in the prescribed manner (RSA, 2001, Insertion of section 40A in Act 103 of 1996).

From 2002 to 2003, ICASA prepared the bid for the first phase of USAL policy which included seven under-serviced areas. The process began in 2003. After half a year of the bid process and evaluation, ICASA submitted the names of seven private telecommunications operators (PTOs) to the Minister of Communication. The Minister approved them (3 conditionally) in June 2004, and then issued the licences and the first tranche of funding from USF – R5 million each to four of them. The bid process took too long to give the PTOs enough time to catch the ‘business opportunity window’. ‘Further delays in the final issuing of these licenses meant these licensees were only able to become operational in 2005’ (Gillwald, 2006).

As the basic objective and requirement of USAL policy, all the PTOs should increase telecom penetration rates in their areas by building and developing their own telecoms networks to cover the people who do not have access to ICT. The PTOs can continue to obtain funds from USF only when they have built their own network. The only guaranteed amount (R5 million) is for the first year, and after that, subsidization would be based on performance.

2.3 Advocates of USAL policy

The first point of view is held by the National Telecommunications Cooperative Association (NTCA) that advocates USAL policy. The analysts which advocate this policy mostly draw on the successful cases in Chile and the United States. In the US there are about 1 200 small regional operators. They have some similar characteristics of USAL, i.e. financial support from government, local community background and small scale. They service about 2.6 million subscribers, which is about 5% of the total subscribers in the US. The total coverage is about 40% of land mass, and most of them are very small:

- 50% have less than 2,500 subscribers
- 80% serve between 500 and 10,000 subscribers
- 20 members have over 20,000 lines
- For all others, the average company has 3,800 subscribers

(Mitchell, 2005).

The National Telecommunications Co-operative Association (NTCA) states that there are two important keys which explain the reasons for the successful operating of small USALs in the US. One is the policy and financial support from government. They continually received financial support from government, and also policy support like an asymmetrical interconnection price. It also holds that 'there is an important role for government in order to act in concert with communities, civil society stakeholders and the private sector' (Mitchell, 2005). Correct policy support is very important to USALs to build a sustainable business model and attract investors.

Another key is that the small operators set their market position as an information service supplier more than a telecom operator. That means they supply multiple services which are delivered by the local community through their own people. 'It means that service providers must offer multiple services – voice, data, entertainment, financial services, etc. – through integrated digital, packet-based platforms, and USALs must think of themselves as information enterprises rather than telecoms companies' (Mitchell, 2005).

Another important lesson learned from the United States of America, the Scandinavian countries, Bolivia and Poland is that telecommunication co-operatives were major contributors to the successful experience of USAL in those countries.

In the United States of America and the Scandinavian countries, telecommunication co-operatives were major contributors to the high levels of universal services enjoyed in those countries. In Bolivia, fifteen telecom co-operatives owned by municipalities have a monopoly on local service in their geographic territories, and are providing the majority of local services in both urban and rural contexts. Similarly, telecommunication co-operatives have also contributed to the improvement of teledensity in Poland (Gillwald, 7: 2002).

According to the point of view of USAL advocates, the South African government is implementing USAL policy in exactly the same way as the US government implemented it successfully in America. The USAL policy included the subsidy, the relationship requirement with the local community, the full service licence, etc. So the advocates do believe that USAL policy is efficient but that sufficient time is required

to develop the learning curve to make it operate. 'In South Africa, government has proactively moved forward on these issues by licensing several ventures to become telecommunications operators in under-served areas. This development represents a key step in the creation of a post-monopoly telecommunications sector in South Africa' (Mitchell, 2005).

2.4 Gradualists of USAL policy

This point of view is held by the people who believe that USAL policy can still attain its objectives if some improvements and amendments are made. They argue about the process and preparation of the operation of this policy. They pay more attention to the operation process. They believe in the gradual improvement of the policy. They found that there are several challenges the USAL policy faced in its operation, one being from the financial side. The USALs are very difficult to get commercial financial investment and support for. 'The other challenge is... in terms of the IT most people who participated in this were rural and poor communities and the licence conditions make it difficult for them to even dilute their shares in whatever way best enables them to raise money through shares' (Mokhethi, 2006).

Another is from the technical side. The regulator did not prepare the relative technical conditions (the frequencies regulation) which can create the usage of the latest cost-effective technologies and give the USALs the advantage of low cost to compete with the big operators. 'The companies would need a spectrum allocated for them to launch their own networks. Moleele confirms that all seven USALs have applied for their spectrum licences, but none have been granted' (Mngcungusa, 2005) There is also the requirement of USAL policy for continued support by subsidy under the condition of building their own network. It is a paradox of this policy and this requirement became a "mission impossible". 'In terms of technology choice...they are being told about the unavailability of such frequencies that are required to be able to rollout the infrastructure which they have been given money to put down' (Mokhethi, 2006).

Some critics hold that these problems are the primary reason for the failure of USAL policy to date. According to their view, most of these problems are from the

implementation process of the policy and can be improved. 'The only distinctive difference would be the readiness of the regulator to support them, he says. Moleele says ICASA has learnt a few lessons through its experience with the first batch of USALs' (Mngcungusa, 2005). The basic business model is still feasible. This policy can still be successful if the stakeholders solve these problems quickly. 'The USAL business case is still there but we need to act quickly to realign the business model' (Mokhethi, 2006).

2.5 Sceptics of USAL policy

This view is held by people who doubt the policy. They do not believe the possibility of success of USAL policy. They argue that it is difficult to be successful because of its basic business model and the current situation of the telecommunications industry. The business model of the telecommunications industry is high density of investment of infrastructure. Recent trends in this industry show that only the bigger players are likely to survive. In the context of the USAL policy, without enough and continual support in the policy and financial aspects, the small operators find it very difficult to build their own sustainable business model (Vecchiato, 2006).

The lack of support from the regulatory authority is another perceived problem. To support the small players in this industry, special interconnection and financial balance systemic arrangements between them and the big players are necessary. 'Without cost-based asymmetrical interconnection prices, a sustainable business case cannot be made for USALs' (Gillwald, 2006:12).

They also argued with the multiple objectives of USAL policy. Besides the objective of universal service, this policy has to bring small business and HDGs into a sector from which they have been excluded. Under the liberalisation and market telecommunication environment, this objective drove the potential investors and shareholders away from this business and undermined the viability of the small operators. It is not sustainable in the current context and does not comply with the market principle. Especially with the latest policy directives from DOC on further competitive telecommunications markets, 'the window of opportunity for these small-scale new entrants may have closed' (Gillwald, 2006:1)

In conclusion, the current USAL policy is complex, and factors which affect the success of a policy are even more so (Gillwald, 2002: 5). There are four main categories of factors that affect USAL policy.

- **Financial Factors:** These include (1) difficulty obtaining commercial and financial investment and support; (2) not spending the subsidies as intended; (3) lack of funding for their operations (R5m subsidies are for infrastructure).
- **Technical Factors:** These include (1) severely limited human resources development; (2) lack of ability to implement the policy as well as to operate the IT; (3) Inability to use the technologies because most business persons running this USAL business were from HDG (Historically Disadvantaged Groups) and based in rural and poor communities; (4) using out-of-date equipment (that might be because of financial constraints).
- **Industrial Factors:** These include (1) excluding small business in the industry because of liberalisation and the telecommunications market environment; (2) difficulty for small operators to build their own sustainable business model because the business model of the telecommunications industry requires a high density of investment in infrastructure, so only the player which is big enough can survive.
- **Government Factors:** These include (1) un-readiness of regulator to support the businesses that are operating USAL policy; (2) delay of the regulator to issue the spectrum licence and frequencies regulation; (3) delayed policy implementation of the Department of Communication (DOC) and Independent Communications Authority of South Africa (ICASA); (4) lack of empowerment and capacity-building from the state; (5) insufficient subsidies from the government; (6) absence of important interest group's involvement, i.e., lack of information sharing, consultation and support from other stakeholders like investors, suppliers and most importantly the Department of Communication (DOC) and Independent Communications Authority of South Africa (ICASA).

However, the study focused only on the governmental factors and looked at the influence of government policy support and regulations on the viability of the USAL policy.

In summary, this literature review discusses the USAL policy and its implementation strategies in several countries. It also expresses different views on USAL policies. Lessons learned indicated that several countries such as the United States, United Kingdom, Bolivia, and Chile have implemented USAL policy successfully. However, USAL policy was less successful in South Africa.

Chapter 3

METHODOLOGY

This chapter presents the methodology used in this report. The chapter starts by explaining its research approach and how that influenced other choices along the road. The chapter proceeds with methods of research and evaluation of the chosen methodology, and explanations of the method of data collection and data analysis. The chapter is intended to help the reader understand how the research was approached.

In order to conduct investigations, researchers use a variety of techniques which fall into two categories: qualitative and quantitative methodology. In this study, the qualitative approach and factor analysis were used to answer the research questions.

3.1 Qualitative approach

The research uses a mixed methodology, which is largely qualitative, and to a lesser extent quantitative. Neuman (2003) states that qualitative research provides a means through which a researcher can judge the effectiveness of particular policies, practices or innovation. According to Peshkin (1993, cited in Leedy, 2001:148) qualitative research studies typically serve one or more of four purposes: description, interpretation, verification and evaluation. Qualitative methodology (interview and literature review) was used to get this information. Moreover, a qualitative approach was applied as a primary means to examine the following aspects.

- The current status of USAL policy and all factors including economic, political and legal environment, market, financial and technical, which affect the operation of current USAL policy in South Africa.
- How these factors work together to affect USAL policy.
- The interests of all stakeholders involved in USAL policy.

3.2 Quantitative approach

Although this study primarily used the qualitative approach, it also used a quantitative approach to examine some comparative questions between successful and unsuccessful businesses which are running under USAL policy in different areas. Quantitative

research questions, unlike their qualitative counterparts, tend to be very specific in nature. Most quantitative research questions fall into one of three categories: (a) descriptive, (b) comparative, and (c) relationship (Onwuegbuzie & Leech, 2006: 480).

Comparative questions were asked to compare two or more groups on the increase rate of telecom penetration, which is the basic objective and requirement of USAL policy (outcome variable). For example:

- (1) What is the difference in increasing the telecom penetration rate between the successful business and unsuccessful business operating USAL in different areas?
- (2) What are the differences in the following factors concerning the viability of USAL policy among the different firms that are running USAL businesses in different areas?
 - financial factors,
 - technical factors,
 - industrial factors, and
 - governmental factors.

Using a mixed methodology, the qualitative and quantitative research questions allowed for answers which could address the ultimate research questions of this study.

3.3 Data collection strategies

Stake (1995, cited in Tellis, 1997) and Yin (1994, cited in Tellis, 1997) identified at least six sources of evidence in case studies: documents, archival records, interviews, direct observation, participant observation and physical artefacts. The interview was largely used to obtain information for the study.”

Kvale (1983:174) states that the purpose of an interview is to “gather descriptions of the life-world of the interviewees with respect to interpretation of meaning of the described phenomena”. According to Hayden (2006), there are four kinds of interview: informal, unstructured, semi-structured, and structured. The informal interview is used to recollect discussion. The unstructured interview allows the researcher to proceed at the respondent’s pace and to vary the subjects put by the interviewee (to an extent). In

a semi-structured interview, the researcher uses an interview guide whilst in a structured interview the researcher uses identical stimuli and adheres to an interview schedule (Hayden, 2006).

The study primarily used semi-structured interviews. As Frey and Oishi (1995:02) explain, “interviewing is a complex and demanding technique”. In general there are obviously advantages and disadvantages when using any interview method. It allows questioning to be guided as the interviewer can clarify points more easily than in something like a mailed questionnaire (Frey & Oishi 1995:03). The technique does, however, rely on the respondent being willing to give accurate and complete answers (Breakwell, Hammond & Fife-Schaw, 1995:238). They may often be dishonest due to feelings of embarrassment, inadequacy, lack of knowledge on the topic, nervousness, memory loss or confusion. On the contrary, they may also provide very elaborate answers in an attempt to figure out the purpose of the study (Wimmer & Dominick 1997:162). In conducting interviews, the study kept in mind these above points and guided the interview process as required.

3.4 Semi-structured interview

Leedy and Ormrod (2005) state that in a semi-structured interview, the researcher may follow the standard set of questions with one or more individually tailored questions to get clarification or probe a person’s reasoning. The study used 13 semi-structured interviews to obtain the primary data, containing one main question and 11 sub-questions concerning USAL policy (see appendix). Besides these questions, six biographical questions were also asked to determine the experience of the interviewees in USAL projects.

The advantage of using the semi-structured interview approach is to obtain deeper and detailed information, consideration, experiences and views from the stakeholders about the USAL policy. The researcher can elicit more in-depth response or fill in information if the participant does not understand the question’ (Hayden, 2006). It is therefore helpful to understand and analyse the complex relationship among all aspects of USAL policy. The respondents include:

1. The policy-makers (manager from DOC and deputy manager from ICASA) who are involved in USAL policy process.
2. USAL small operator: shareholder, senior management and consultants who work for them.
3. Analysts (lecturers and senior researchers) in the telecommunications industry, advisory firms and academic institutions.

Besides semi-structured interviews, the literature review was also used to obtain secondary data in order to avoid the limitations of interviewing. On the other hand, the sample is not representative of the population because of its small scale. The sources obtained were:

1. Related policy documents and government publications;
2. Research reports, analytical articles and statistical data about USAL policy;
3. Documents from seminars, workshops and conferences about USAL policy;
4. Documents and research in the telecommunication industry which relate to USAL policy.

By studying these materials from different sources, the trend of USAL policy was observed, and the possibility of unrepresentative interviews and the intrusive effect on the results were avoided.

3.5 Data analysis strategies

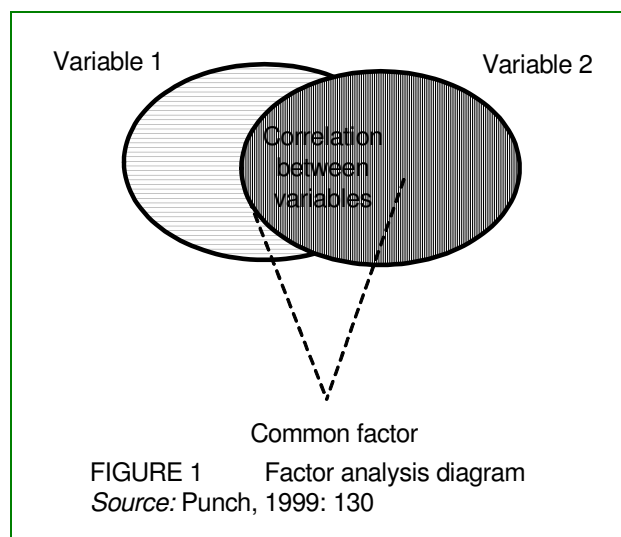
Data analysis is the process of bringing order, structure and meaning to the mass of collected data. Qualitative data analysis is a search for general statements about relationships among categories of data; it builds grounded theory (Marshall & Rossman, 1989: 112). After collecting the useful data, the research integrated them and analysed the different aspects of finance, technical, human resource and management skills and then research question were answered by means of factors analysis.

According to Leedy and Ormrod (2005:274) factors analysis is used to examine the correlations among a number of variables and identify clusters of highly interrelated variables that reflect underlying themes, or factors, within the data.

3.6 Factors

Factor analysis is based on the correlation between variables, as shown in Figure 1. This is because when two variables are correlated, the existence of a common factor can be proposed, which both variables share to some extent, and which explains the correlation between them. The aim of factor analysis is therefore to reduce the number of variables by finding the common factors among them (Punch, 1999:130).

Figure 3.1 Factor Analysis Diagram



This study was initially proposed to apply the factor analysis method; however, because of financial and time constraints not all the factor analysis methods could be used. Strictly speaking, factor analysis requires that several hundred people be interviewed and several hundred factors be collected (Punch, 1999; Leedy, 1993; Leedy & Ormrod, 2005). This study conducted only eight interviews and completed the analysis with a smaller number of derived or unobserved variables, called factors. In the analysis, the study examined various categories of factors i.e. (i) political/social, (ii) technological, (iii) economic; (iv) human expertise, knowledge, and (vi) policy.

From the literature, this study found 20 factors, listed below of which 14 factors are governmental (Gillwald, 2002; Gillwald, 2006; Intven, 2000; Lewis, 2006c; Mitchell, 2005; Mngcungusa, 2005; Mokhethi, 2006; Vecchiatto, 2006).

- (1) Lack of political will (governmental factor)

- (2) Unsatisfactory policy and financial support (governmental factor)
- (3) Insufficient empowering and capacity-building effort (governmental factor)
- (4) Un-readiness of the regulator to support
- (5) Foreign ownership limitation (governmental factor)
- (6) Encumbered license conditions (governmental factor)
- (7) Lack of co-ordination among stakeholders (governmental factor)
- (8) Lack of internal communication process (governmental factor)
- (9) Inadequate funding (governmental factor)
- (10) Institutional in-fighting (governmental factor)
- (11) Complex application process (governmental factor)
- (12) Unclear funding framework (governmental factor)
- (13) Delay in issuing licenses (governmental factor)
- (14) Aberrations in policy (governmental factor)
- (15) Lack of enabling environment for operators (governmental factor)
- (16) Nature of market: high-cost and low-profit
- (17) Insufficient human capital
- (18) Unfair competition
- (19) Capital-intensive business
- (20) Misusing the funding (not for the intended purpose).

These factors were used as a frame of reference in designing interview questions and in guiding the observations in the interviewing process. All of the interviewees mentioned most of these factors in their answers (see interviewees' answers as appendix). By using the scores that the interviewees gave to these factors, the study analysed how these factors have influenced the viability of USAL policy as well as their level of impact on the policy implementation (see page 34-35)

3.7 Results

The research will be presented in different forms: firstly, as part of a degree qualification; secondly, it will be simplified as a summary of the research process and provide specific recommendations to the government ministry. Finally, it will be written as research article for submission to an academic journal.

In summary, the research methodology in this study was based on an analysis of the literature related to the topic and was supported by case studies as described in the following chapter. The qualitative data generated was in line with the research question, for the purpose of the study, and presented according to emerging themes. During the data collection phase, some barriers were encountered because of the fact that the interviewees were not available to answer the research questions. Thus telephone interviews were supplemented in the data collection stage. To ensure the accuracy of data that has been collected, a triangulated research strategy was used in the data collection method. In the next chapter, the research questions will be answered and the lessons presented.

Chapter 4

ASSESSMENT AND FINDINGS

This chapter presents firstly the summarised version of the responses of the interviewees. Then the results of the study and their interpretation are discussed. The interpretation of results occurs in conjunction with the main research questions of this study.

The specific questions to this study, as outlined in chapter one (section 1.4) were:

1. Under the current situation and conditions in South Africa, what are the governmental factors that have an impact on the viability of the USALs?
2. What factors undermine the success of USALs?
3. What factors support USALs' viability?
4. How do these factors work together to affect the USALs?

The study conducted the interviews with the policy-makers (ICASA and DOC) through such contacts as the councillor and staff involved in USAL policy process, USAL small operators like shareholders, senior management and consultants who work for them, and analysts in the telecommunications industry i.e., intelligence and advisory firms, and academic institutions.

There are eight respondents: two policy-makers, three USAL small operators, and three analysts.

4.1 Statistics on the respondents' biographical information

This study interviewed eight respondents. Their ages range from 35 to 55 years old. Although they have been working in USAL policy environment for between 3 years and 4 years, they have been in the IT industry for between 10 and 15 years. Their positions include senior management, skilled technician, and senior researcher. They work in their company and their department as policy implementer, evaluator, researcher, and USAL operator. Their main responsibilities are implementing, evaluating, or researching USAL policy.

4.2 Respondents' answers

The main question of the interview is: Under the current situation and conditions in South Africa, what are the most important factors (especially from the governmental factors) that impact on the viability of the USALs? The responses of the interviewees are presented by categorising them into three sections: Policy-makers' responses, USAL small operators' responses, and analysts' responses.

4.2.1 Policy-makers

In the interview, two policy-makers said their studies and observation conclude that there are six factors that affect USAL: (1) unclear funding framework; (2) capital-intensive business; (3) insufficient human capital; (4) lack of technical capability; (5) lack of interest group's involvement and stakeholder participation; and (6) subsidies.

Unclear Funding Framework

The Universal Service Agency has subsequently indicated that it would make subsidies and loans available to the successful applicants. However, there was initially no clear funding framework attached to the policy or licensing framework to support the applicants and start-up process for under-serviced areas.

Capital-Intensive Business

Operating a telecommunications network is a capital-intensive business. The average investment cost in direct exchange lines, including access technologies and exchange infrastructure but with no transmission backbone, is around \$1,000 per line. The smallest USAL licensee is likely to require in excess of US \$5 million to capitalise its network and the larger licensees closer to US \$20 million. These figures greatly exceed traditional and legal conceptions of SMME activities and fall way beyond the SMME ceilings for state support of small enterprises in the communications sector. Few Historically Disadvantaged Groups (HDG) can competently run a sustainable USAL business unless the groups started a business without their own network.

The business model of the telecommunications industry is high density investment in infrastructure, and only the player which is big enough can survive. Without enough, and continual, support in the policy and financial aspects, the small operators find it very difficult to build their own sustainable business model.

Insufficient Human Capital

The greatest barrier to entry and success is not the financial capital which is available domestically and internationally but the human capital needed to sustain it. Additionally, most people who participated in this study were from rural and poor communities and the licence conditions make it difficult for them to even dilute their shares in whatever way enables them to raise money through shares. Since most of them are from rural and poor communities, they are also unqualified to do the work.

Lack of Technical Capability

By the end of May 2006, almost two years after the first group of seven PTOs (Private Telecom Operators) received USAL licences, none had installed any telecommunication networks to provide adequate telecommunications service coverage and access. Only a few of them, such as Bokamoso Communications (B-Tel) and Thinta Thinta Telecoms (T3), have supplied telecommunication services by signing a roaming agreement with mobile operators in order to use the mobile networks to service the PTO's own subscribers.

Lack of interest group's involvement and stakeholder participation

Some important interest groups such as non-government organisations remain uninvolved in the processes. Some public sectors like ICASA and DOC do involve in the USAL process, however they delayed in issuing the (USAL) license, the spectrum licence and frequencies regulation. Moreover, co-ordination and internal communication processes are also lacking among stakeholders.

Subsidies

Payment of subsidies is tied to project implementation and service quality with partial payment at the beginning of the project, a second payment once facilities are installed, and the remaining amount in instalments over the five-year period. This allows the

regulator to penalize operators for failure to meet operational deadlines or for payphone or system outages.

4.2.2 Small operators

Three small operators explained that in their experience four factors affected the viability of USAL: (1) nature of market: high-cost but low-profit, (2) unfair competition, (3) encumbered license conditions, and (4) foreign ownership limitation.

Nature of Market: High-Cost but Low-Profit

The USALs in South Africa have a dual purpose. They are intended to provide services to areas that have not been served by the incumbent due to the high cost of expanding the network in relation to the low purchasing power of households located within those areas.

The licenses are being granted in areas that have traditionally been underserved by the incumbents, because they are perceived to be high-cost, low-profit areas.

Unfair Competition

The Telecommunications Amendment Act (No. 64 of 2001) states that the Minister of Communication should determine the geographical areas where telecommunications density is less than 5% and the Independent Communications Authority of South Africa (ICASA) will grant the under-served areas licence (USAL), and applications for USAL licences from historically disadvantaged groups (HDG) and women should be an important consideration (RSA, 2001, Insertion of section 40A in Act 103 of 1996).

However, USALs have been given areas with major commercial or government centres that already have market share and their own networks. The 27 USAL areas combined constitute 47% (21 million) of the total population and currently account for about 25% (ZAR 15 million) of the total telecom service market (Smit, 2004: 43). The USALs are competing with the public fixed line incumbent and the highly successful mobile operators. Moreover, the economic segments of the market i.e., government, business, and urban residential are already serviced by Telkom and the mobile operators.

As a first opportunity for small entrants to enter the market, there has been overwhelming interest in the licenses which are required to go to historically disadvantaged individuals (historically disadvantaged individuals or groups are those that under apartheid were denied basic human rights on grounds of their race and those who were prejudiced in terms of opportunities, including women and the disabled).

However, only one group in each area gets the license, while several other bidders for each license do not. As the applicants are required to come from SMMEs and historically disadvantaged groups, and are less easily able to absorb losses in their enterprises, the anticipated forfeiture of their application fee to the state does not seem to be considered.

People had lost their homes, and in order to sustain the license application processes over the two-year delay they had personally invested 0.5 million Rand (\$75,000) as the expense of some of their small businesses which had gone under.

Encumbered License Conditions

This is a license condition that 0.1% of turnover is to be paid after the first two years of operation in fees while they are still receiving subsidies and have not begun to break even.

The Minister of Communications sets the frequency spectrum use fees. Thus any 1800 MHz and 3G radio spectrum licensee to whom licenses are issued will be required to pay the frequency spectrum use fees.

Foreign Ownership Limitation

Foreign ownership on any one USAL is limited to 25%. It is not an area conducive to investment and none of the USALs interviewed were able to attract foreign investment.

4.2.3 Analysts

The analysts answered that there are five factors that affect USAL: (1) delay in issuing licenses, (2) aberration in policy, (3) lack of political will and institutional fighting, (4)

determination on and allocation of subsidies, and (5) un-readiness of regulator to support the USAL businesses.

Delay in issuing licenses

Though the Ministry finally granted the first 4 of the initial 10 applications, with another 3 granted conditionally in June 2004, the Independent Communications Authority of South Africa (ICASA) delayed issuing these licenses. Thus the first licenses become operational in 2005.

Aberration in Policy

On September 2, 2004 the Minister of Communications issued a policy announcement which indicated the intention to put in place several of the measures proposed to lift the restriction requiring the acquisition of facilities from anyone other than the incumbent fixed-line operator, Telkom (or the Second Network Operator when it became operative), including the self-provisioning of facilities by mobile operators.

This policy directive permitted voice on Value Added Network Services (VANS) and the resale of bandwidth by them and Private Telecommunications Networks, and the deregulation of the pay telephone market. As a result, the business case of USALs has not only ceased to exist, but the regulator has again been forced to turn its attention to new developments that are underpinned by more powerful financial interests and are diverted again from issuing USAL licenses.

Lack of Political Will and Institutional In-fighting

Lack of Political Will and Institutional In-fighting stalled a very promising process. Although the government has issued a policy announcement for the USAL policy and made a commitment to its implementation, the process of providing necessary infrastructure was very slow. Moreover, among different institutions the issues of priority in implementing different projects sometimes conflate with each other. When Value Added Network Services (VANS) was started, the business case of USALs was given less attention and the regulator turned its attention to new developments because of greater financial interests.

Determination on and Allocation of Subsidies

The success of USAL policy was due largely to extensive reliance on market forces to determine and allocate subsidies, minimal regulatory intervention, simple and relatively expeditious processing and effective government leadership.

Un-readiness of Regulator to Support the USAL Businesses

Regulators are not ready to support the businesses that are operating USAL policy and this causes the issuing of the spectrum licence delay. They also have not prepared the relative technical conditions such as the frequencies regulation.

According to all of the respondents, the following twenty factors were recorded (See table 4.1).

Table 4.1 Significance-Scores on Factors

No.	Factors	Respondents								Total Scores
		Policy Maker (1)	Policy Maker (2)	Operator (3)	Operator (4)	Operator (5)	Analyst (6)	Analyst (7)	Analyst (8)	
1	Lack of policy and financial support	4	4	5	5	5	4	5	3	35
2	Lack of coordination among stake-holder	4	3	5	4	4	5	5	4	34
3	Lack of Technical Capability	5	3	4	4	4	5	4	4	33
4	Nature of Market: High-Cost but Low-Profit	2	5	2	3	1	5	3	4	25
5	Lack of empowering and capacity building effort	3	3	4	2	5	2	2	4	25
6	Lack of Political Will	2	3	2	5	5	3	3	1	24
7	Insufficient Human Capital	2	5	2	3	2	4	2	1	21
8	Un-readiness of the regulator to support	1	0	5	4	5	2	2	3	22
9	Unfair Competition	2	4	5	0	5	2	1	2	21
10	Foreign Ownership Limitation	4	3	1	2	2	2	1	5	20
11	Encumbered License Conditions	3	1	2	2	3	3	2	4	20
12	Lack of funding (insufficient funding)	2	4	1	2	1	3	3	3	19
13	Lack of internal communication process	3	2	1	2	3	2	3	2	18
14	Capital-Intensive Business	3	1	2	4	2	3	1	1	17
15	Institutional Infighting	1	2	2	3	1	3	3	2	17
16	Complex Application Process	1	4	0	2	0	5	2	2	16
17	Unclear Funding Framework	4	1	2	2	2	0	1	3	15

18	Delay in issuing licenses	2	2	2	1	3	2	2	1	15
19	Misusing the funding (Not for the intended purpose)	1	2	0	2	0	3	2	2	12
20	Aberration in Policy	0	2	0	1	4	1	5	0	13

Note: Significance of score, 0 = no significance, 1 = lowest significance, 2 = low significance, 3 = significance, 4 = high significance, 5 = highest significance,

**Table 4.2 The Most Important Factors Undermining the Success of USALs
(Answered by the interviewees)**

	Factors	Policy Maker (1)			Policy Maker (2)			Operator (3)			Operator (4)			Operator (5)			Analyst (6)			Analyst (7)			Analyst (8)			
		Lack of Technical Capability	Lack of coordination among stake-holder	Lack of policy and financial support	Insufficient Human Capital	Nature of Market: High-Cost but Low-Profit	Lack of funding (insufficient funding)	Lack of policy and financial support	Lack of coordination among stake-holder	Un-readiness of the regulator to support	Lack of Political Will	Lack of policy and financial support	Capital-Intensive Business	Lack of policy and financial support	Un-readiness of the regulator to support	Unfair Competition	Lack of coordination among stake-holder	Lack of Technical Capability	Nature of Market: High-Cost but Low-Profit	Lack of policy and financial support	Lack of coordination among stake-holder	Aberration in Policy	Foreign Ownership Limitation	Lack of coordination among stake-holder	Lack of Technical Capability	
1	Lack of policy and financial support			√				√				√		√						√						5
2	Lack of coordination among stake-holder		√						√								√				√			√		5
3	Lack of Technical Capability	√																√						√		3
4	Nature of Market: High-Cost but Low-Profit					√													√							2
5	Lack of Political Will										√															1
6	Insufficient Human Capital				√																					1
7	Regulator's un-readiness to support									√					√											2
8	Unfair Competition															√										1
9	Foreign Ownership Limitation																					√				1
10	Lack of funding (insufficient funding)						√																			1
11	Capital-Intensive Business												√													1
12	Aberration in Policy																				√					1

In the following section the answers to the research questions will be presented.

4.3 Factors undermining the success of USALs

The first research question of this study is “What factors undermine the success of USALs?”

This study found that of the twenty factors that undermine the success of USALs, the following twelve factors are the most important:

- (1) Lack of policy and financial support
- (2) Lack of co-ordination among stake-holders
- (3) Lack of technical capability
- (4) Nature of market: high-cost but low-profit
- (5) Lack of political will
- (6) Insufficient human capital
- (7) Un-readiness of the regulator to support
- (8) Unfair competition
- (9) Foreign ownership limitation
- (10) Lack of funding (insufficient funding)
- (11) Capital-intensive business
- (12) Aberration in policy.

4.4 Governmental factors that affect USAL viability

The second research question of this study is “Under the current situation and conditions in South Africa, what are the governmental factors that have an impact on the viability of the USALs?”

This study found that the following nine governmental factors are affecting the viability of the USAL policy:

- (1) Lack of policy and financial support
- (2) Lack of empowering and capacity building effort
- (3) Lack of political will
- (4) Foreign ownership limitation

- (5) Un-readiness of the regulator to support
- (6) Complex application process
- (7) Unclear funding framework
- (8) Encumbered license conditions
- (9) Aberration in policy.

**Table 4.3 Governmental Factors that Affect the USAL Viability
(Answered by the interviewees)**

Factors	Policy Maker (1)	Policy Maker (2)	Operator (3)	Operator (4)	Operator (5)	Analyst (6)	Analyst (7)	Analyst (8)	
1	Lack of policy and financial support	✓			✓				7
2	Lack of empowering and capacity building effort								3
3	Lack of Political Will			✓					3
4	Foreign Ownership Limitation	✓							3
5	Regulator's un- readiness to support		✓		✓				3
6	Complex Application Process					✓			2
7	Unclear Funding Framework	✓							1
8	Encumbered License Conditions							✓	1
9	Aberration in Policy						✓		1

4.5 Factors supporting USAL viability

The third research question of this study is “What factors support USALs’ viability?”

From the answers of respondents, the viability of USAL is supported by the following five factors:

- (1) Improved technical capability through training
- (2) Policy and financial support from the state
- (3) Support from the government such as enabling environment
- (4) Co-ordination among stakeholders and Information Sharing
- (5) Empowering the community and business owner

**Table 4.4 Factors Supporting USAL Viability
(Answered by the interviewees)**

Factors	Policy Maker (1)	Policy Maker (2)	Operator (3)	Operator (4)	Operator (5)	Analyst (6)	Analyst (7)	Analyst (8)	
		Support from the government such as enabling environment							
		Empowering the community and business owner							
		Enhancing the capacity-building and training programmes	✓						
		Government Support		✓					
		Improved technical capability	✓						
		Information Sharing							
		Policy and financial support from the state							
		Technical capability	✓						
		Coordination among stakeholders							
		Capacity Building	✓						
		State's Support for Finance and Infrastructure		✓					
		Subsidies		✓					
		State's support		✓					
		Capacity Building	✓						
		Networking among the Public and Private Sector							
		Capacity Building	✓						
		State's Commitment		✓					
		Infrastructure and Financial Support		✓					
		State's Policy, Technical and Financial Support	✓						
		Building Technical Capability	✓						
		Coordination among State-holders							
		Technical Capability	✓						
		Government's support for Finance and Infrastructure			✓				
		State-holder involvement							
1	Improved technical capability through training								9
2	Policy and financial support from the state								8
3	Support from the government such as enabling environment	✓							6
4	Coordination among stakeholders and Information Sharing		✓						6
5	Empowering the community and business owner	✓							5

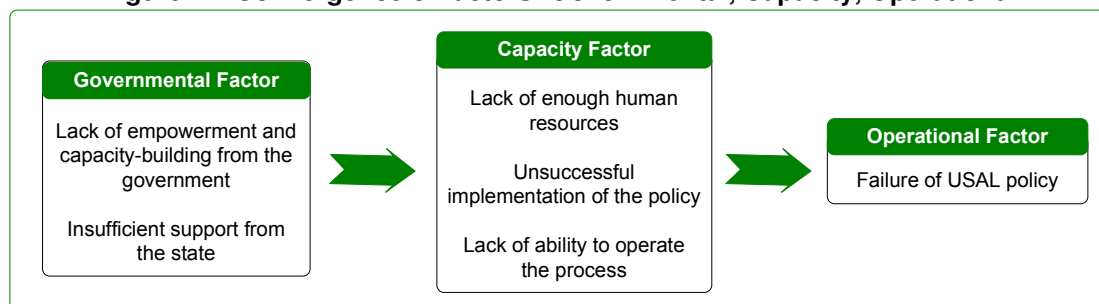
4.6 Convergence of factors

The fourth research question of this study is “How do these factors work together to affect the USALs?”

The study revealed eight kinds of factors that are affecting the viability of USAL policy in South Africa, including governmental factors, institutional factors, financial factors, technical factors, industrial factors, community factors, operational factors, and capacity factors. The interviewees said that from their experiences and their analysis, it was found that these factors are interlinked with each other – for instance, lack of empowerment and capacity-building from the state has a relationship with lack of enough human resources as well as unsuccessful implementation of the policy; lack of building enabling environments for the operators also links with the lack of co-operation and communication among the stakeholders as well as lack of interest groups’ involvement (Figure 4.1). The convergence of factors will be elaborated on below.

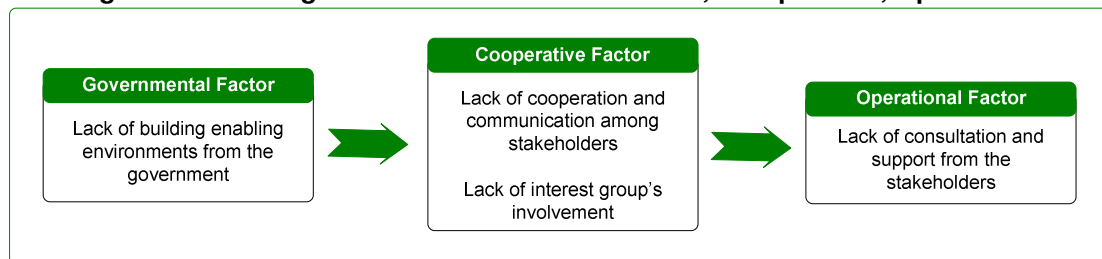
Governmental factors involve (1) un-readiness of regulator to support the businesses that are operating USAL policy; (2) delay of the regulator to issue the spectrum licence and frequencies regulation; (3) delayed policy implementation of the department of communication (DOC) and Independent Communications Authority of South Africa (ICASA); (4) lack of empowerment and capacity-building from the state (5) inadequate subsidies from the government; (6) absence of important interest group’s involvement, i.e. lack of information sharing, consultation and support from other stakeholders like investors, suppliers and most importantly the Department of Communication (DOC) and Independent Communications Authority of South Africa (ICASA).

Figure 4.1 Convergence of factors: Governmental, Capacity, Operational



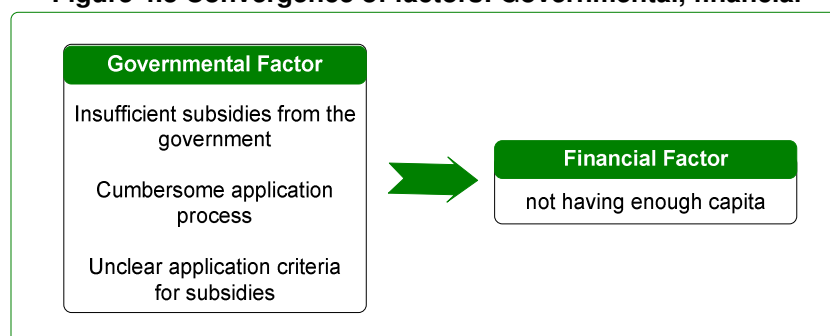
The lack of empowerment and capacity-building from the state for the operators that are running the USAL businesses are linked with the lack of enough human resources and unsuccessful implementation of the policy. The lack of ability to operate the whole process of USAL policy that in turn causes the failure of USAL policy, is a result of lack of empowerment and capacity-building and insufficient support from the state (Figure 4.2).

Figure 4.2 Convergence of factors: Governmental, Co-operative, Operational



The lack of building enabling environments for the operators also links with the lack of co-operation and communication among the stakeholders as well as lack of interest groups' involvement. These factors are also associated with the operational factor that involves lack of consultation and support from other stakeholders like investors and suppliers and most importantly the Department of Communication (DOC) and Independent Communications Authority of South Africa (ICASA) (Figure 4.3).

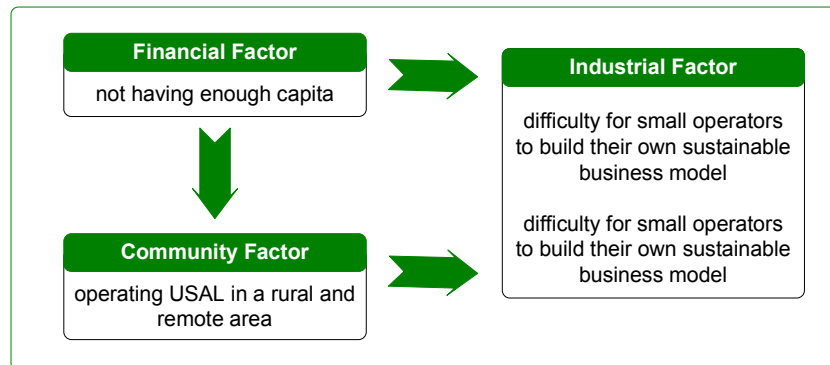
Figure 4.3 Convergence of factors: Governmental, financial



Insufficient subsidies from government, a cumbersome application process and unclear application criteria for subsidies are also causing financial difficulties for the SMME entrepreneurs who are historically disadvantaged groups, most of whom do not have

enough capital to compete with the incumbent IT companies such as Telkom and Vodacom that are also operating in this area (Figure 4.4).

Figure 4.4 Convergence of factors: Financial, community, industrial



A financial factor such as not having enough capital is also connected with the community factor such as operating USAL in a rural and remote area. Both of these factors also link with the industrial factor that involves difficulty for small operators to build their own sustainable business model because the business model of the telecommunications industry requires high density investment in infrastructure, and only the larger players are likely to survive.

In this section, the research questions are answered by analysing the responses from the interviewees and also from the literature review. This study analysed the factors that affect the viability of USAL policy and categorised these factors into eight different groups such as governmental factors, institutional factors, financial factors, technical factors, industrial factors, community factors, operation factors, and capacity factors. Finally, the study mentions the interconnection among these factors. In the following section the recommendations for future research and for USAL policy implementation will be discussed.

Chapter 5

RECOMMENDATIONS AND CONCLUSION

5.1 Introduction

This study has explored some of the key factors that affect the viability of USAL policy. As mentioned in the introduction (chapter one), the basic objective and requirement of USAL policy is to increase telecom penetration rate in USAL areas by building and developing independent telecom networks and covering the people who do not have access to ICT (Gillwald, 2006).

By the end of May 2006, almost two years after the first group of seven PTOs (Private Telecom Operators) received USAL licences, none had installed any telecommunications networks to provide adequate telecommunications service coverage and access. Only a few of them, such as Bokamoso Communications (B-Tel) and Thinta Thinta Telecoms (T3), have supplied telecommunication services by signing a roaming agreement with mobile operators in order to use the mobile networks to service the PTO's own subscribers.

5.2 Suggestions for further research

No research is complete: new researchers are always adding new information and new findings that again require yet further interrogation. Naturally this research also cannot be regarded as the definitive research in this area. As a result of the research findings, potential areas for further research can be identified as follows:

- The study cannot further investigate the conditions without visiting the regions where the USAL was being implemented.
- The study should interview as many stakeholders possible to understand what overall concerns and difficulties they encountered in the process of USAL.

Because of time and financial constraints, it was not possible to meet with and get responses from the small and medium businesses that are undertaking USAL, the businesses that were rejected by USAL, and those who are waiting to be granted

USAL. If the study could involve almost all the stakeholders, the findings would be more effective and more useful for the implementation of USAL policy.

Thus the recommendations of this study are that the future study should include all stakeholders in its investigation process and should visit all the areas which are under-serviced and examine their situation and the challenges and barriers they are encountering in the process of USAL.

5.3 Recommendations

This study noted three important recommendations from the interviewees and mentioned in the literature on the USAL policy. These are (1) to intensify the capacity-building in the technology especially in the field of Information Technology, particularly for the operators and persons who are running USAL businesses; (2) to have sufficient support from the state such as building an enabling environment for the operators, granting sufficient subsidies, as well as having clear a funding model – whether reverse subsidies, low interest loans, or government guarantees; and finally (3) to ensure smooth co-ordination among stakeholders and build an effective internal communication process.

5.3.1 Intensive capacity-building

As the Deputy Minister of Communications has observed, the challenges are to become part of the world information society and especially to bridge the digital divide. To address these twin challenges it is necessary to strengthen the effort to bridge the digital and knowledge divide and develop the Information Society in South Africa. Moreover it also needs to promote greater dissemination of information and knowledge to the under-serviced areas, to build capacity for the utilisation of information and communication technology, to provide an enabling environment, to develop skills and to create growth and expansion (Padayachie, 2005:1).

5.3.2 Sufficient support from the state

This includes not only personal development of people, but also a recognition of technology as a tool for economic development. The National Policy goal for the USALs was to empower rural communities particularly to participate in the second economy and within the global village. The other important aspect of the policy is the

empowerment of women. The granting of these licenses is an opportunity for them to come in as owners, and in this way the imbalances of the past may be addressed (Padayachie, 2005:2).

In this noble attempt to empower the poor, good intentions alone are not enough, and a well thought through plan as well as correct political, policy, financial and infrastructural support are indispensable. The state should also build a simple and flexible regulatory environment that is the key to successful remote access. Moreover, regulatory intervention is necessary in critical areas.

It is also necessary for the state to build the capacity of the community and the stakeholders in order to have sufficient skills and abilities to ensure implementation, to empower the community especially women and the youth, and finally to construct the necessary infrastructure for the USAL programme.

5.3.3 Co-ordination among stakeholders

The private sector and the public sector should work together in the implementation of USAL policy. Co-operation between private and public sectors could improve the effectiveness and viability of USAL policy. The study disclosed 12 factors that are most important in ensuring the success of USAL policy (see chapter four). One of these factors is lack of co-ordination among stakeholders. If there could be a closer co-ordination among stakeholders such the Department of Communication (DOC), the Independent Communications Authority of South Africa ICASA), the Universal Service Agency (USA) and private telecommunications operators (PTO), almost all of these factors can be taken off the list. To promote such close co-operation, the interviewees made the following suggestions for consideration by the key stakeholders (see Table 5.1).

Table 5.1 Suggestions to Stakeholders

Stakeholders	Suggestions
DOC	■ To suspend the licensing of additional USALs and focus on assisting USALs ■ To encourage other government entities, e.g., Sentech and Sita, to utilise USAL services and, to enter into partnerships with USALs ■ To provide training in corporate governance matters, in respect of the telecommunications industry, and in business skills
ICASA	■ To create an environment for innovation that will benefit the sector ■ To make licensing and regulatory regime to be simple and flexible. ■ To make available requested frequency spectrum ■ To clarification of the requirements in respect of what the subsidy can and cannot be used for
USA	■ To establish centre for USALs to access business, legal and technical advice and assistance ■ To increase the subsidy amount
Private Sectors (PTOs)	■ To provide in-job-trainings for their employees ■ To form co-operatives among small regional operators, thereby they can share expertise and exchange information

5.3.4 Co-operative private sectors

The telecommunication industry requires high capital density, technical skills and operational experience. The HDGs are not likely to be in a position to ensure that all these factors are in place, and they have also been limited in other ways that potentially threaten their viability, such as, for instance, access to radio spectrum and to Universal Service Fund; and limitations on scale economies and on experience of operators.

From the successful experiences of USAL in the United States of America and the Scandinavian countries, it was learned that telecommunication co-operatives were major contributors to the high levels of universal services enjoyed in those countries. In Bolivia, local municipalities owned the fifteen telecom co-operatives. They have a monopoly on local service in their geographic territories, and are providing the majority of local services in both urban and rural contexts. Similarly, telecommunication co-operatives have also contributed to the improvement of teledensity in Poland (Gillwald, 7: 2002).

Thus, the private sectors should form co-operatives that will expand their expertise and thereby overcome their limitations that threaten USAL viability. Moreover, they should train their employees through on-the-job training programmes as well as bursary schemes for young students.

The purpose of this research was to analyse the factors affecting the USAL policy as well as to indicate the possible ways in which both the private sector and the public sector can improve the effectiveness and viability of USAL policy.

The central conclusion of this study is that the most important factors that affect the viability of USAL are the lack of capability to implement USAL, insufficient financial and infrastructural support from the state, lack of co-ordination among stakeholders such as the public sector, private sector, policy-makers, analysts and USAL business owners, and finally lack of co-operation among the private sector (PTO).

On the positive side, however, the study indicates that there are positive examples of success that can be emulated. If several countries such as the United States, United Kingdom, Bolivia and Chile are able to implement their USAL policy successfully, why can South Africa not be successful in its processes? If there is a strong commitment from government to the policy and adequate state support in terms of finance and infrastructure which are necessary for USAL implementation, together with satisfactory capacity-building for the community and private businesses who are implementing the USAL policy process, then the chances of success will be greatly improved.

■

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APPENDIX

6.1. Letter of Consent for Interview

Dear Sir,

This is a request for a voluntary participation in a research project on the “Viability of Under-Serviced Area Licence: Factors Analysis toward a Masters’ degree at Wits University Graduate School of Public and Development Management. As part of this research I am requesting your benevolent support to fill this questionnaire.

The interview is divided into two sections. Section A is biographical information which contains information that will assist in determining your experience in USAL policy and its implementation. Section B addresses how you perceive USAL policy and perceive success or failure of its implementation.

Thank you for taking the time to take part in this interview. As you take part in this survey, please be aware of following issues:

- Participation in this interview is voluntary.
- All information provided will be treated with anonymity and utmost confidentiality.
- The results will be made available at your request. See my contact details below.

Thank you for your time,

Mr Li Hao
WITS university PADM
MOBILE: +27-84-2404397
E-Mail:lihaog@huawei.com



6.2. Semi-Structured Interview Questions

A. Biographical Information

- (1) How old are you?
- (2) How many years are you involving in USAL policy?
- (3) How many years have you been involved in the Information and telecommunication industry?
- (4) What is your position in your company or department?
- (5) What is your main role in your company or department?
- (6) What are your main responsibilities?

B. Questions on the USAL policy

Main Questions of this interview is: Under the current situation and conditions of South Africa, what are the most important factors (especially from the governmental factors) that impact on the viability of the USALs? In order to get the comprehensive answers for the main questions, the following sub-questions also are asked in the interview.

- (1) What is your understanding of the USAL policy?
 - (2) How long have you been implementing USAL policy in your work?
 - (3) What are the main challenges that the USALs are facing? Name 3 to 5 in order of priority.
 - (4) What factors undermine USALs to succeed (governmental factors in particular and other all factors in generals)? Name 3 to 5 in order of priority.
 - (5) What factors support USALs' viability?
 - (6) How do these factors work together to affect the USALs?
 - (7) What do you think are the major reasons for the failures of USAL policy?
 - (8) How can we make sure USAL policy becomes successful (especially in relation with the governmental factors)?
 - (9) Why are different interest groups not getting involved in the policy process?
 - (10) Why did ICASA and DOC delays in issuing the (USAL) license, the spectrum licence and frequencies regulation?
 - (11) What should government do to get USAL policy successful?
 - (12) What recommendations would you make about a successful USAL policy?
- 

6.3. List of Interviewees

Table 6.1 List of Interviewees

	Full Name (Be hidden)	Position (Title)	Company / Organisation	Date they worked in IT Industry	Date they worked in USAL project
1		Policy Maker, Manager	DOC, Gauteng	1997	2006
2		Policy Maker, USAL Unit Deputy Manager	ICASA, Gauteng	1996	2005
3		Operator, Skilled Technician	MTN Service Centre, Sandton, Gauteng	1993	2005
4		Trainer, Skilled Technician	MTN Head Office, Midrand, Gauteng.	1997	2006
5		Operator, Skilled Technician	Bokone Telecomms, Limpopo.	1996	2005
6		Analyst and Lecture	UCT, Western Cape	1998	2006
7		Analyst and Senior Researcher	HSRC, Gauteng	1996	2004
8		Analyst and Senior Researcher	UNISA, Gauteng	1993	2004

6.4. Answers of Respondents

Respondent 1 (Policy Maker)

A. Biographical Information

1	How old are you?	46 year old
2	How many years are you involving in USAL policy?	2 years
3	How many years have you been involved in the Information and telecommunication industry?	11 years
4	What is your position in your company or department?	Manager
5	What is your main role in your company or department?	Management
6	What are your main responsibilities?	Managing and monitoring projects

B. Questions on the USAL policy

Q (1) Under the current situation and conditions of South Africa, what are the most important factors (especially from the governmental factors) that impact on the viability of the USALs?

- (1) Unclear funding framework,
- (2) Capital-intensive business,
- (3) Insufficient human capital,
- (4) Lack of technical capability,

Q (2) What is your understanding of the USAL policy?

It is a license to do IT business in the Under-Serviced Area. These areas are far, remote and so there is not enough IT service. The government thus try to give the license to the median and small businesses to offer telecommunication service in those areas.

Q (3) How long have you been implementing USAL policy in your work?

About 2 years

Q (4) What are the main challenges that the USALs are facing? Name 3 to 5 in order of priority.

Technical Capability
Coordination between public and private sectors as well as among stake-holder
Policy and financial support
Funding

Q (5) What factors undermine USALs to succeed (governmental factors in particular and other all factors in generals)? Name 3 to 5 in order of priority.

Lack of policy and financial support
Lack of Technical Capability
Lack of coordination among stake-holder

Q (6) What factors support USALs' viability?

Support from the government such as enabling environment,
Empowering the community and business owner.
Enhancing the capacity-building and training programmes

Q (7) How do these factors work together to affect the USALs?

These factors are interlinked with each other. Government's support in terms of finance, training and information sharing will help the increasing the capacity of the business persons to operate the USAL. Also the nature of IT industries is also linked with the unfair competitions and lack of sufficient capital to run IT business sufficiently.

Q (8) What do you think are the major reasons for the failures of USAL policy?

Lack of technical capability because of insufficient capacity building
Insufficient capital

Q (9) How can we make sure USAL policy becomes successful (especially in relation with the governmental factors)?

Infrastructural and financial support
Intensive capacity-building process

Q (10) Why are different interest groups not getting involved in the policy process?

There is in deed no cooperation among the stake-holders. They are not interested in the policy. There should be a committee which make regular gathering, meeting and discussion and shares the necessarily information.

Q (11) Why did ICASA and DOC delays in issuing the (USAL) license, the spectrum licence and frequencies regulation?

I don't know why it takes too long. We need to do more researches in this issue.

Q (12) What should government do to get USAL policy successful?

Get more involved in the policy, to get connected with the businesses they are doing USAL and to monitor the processes. Give more subsidies.

Q (13) What recommendations would you make about a successful USAL policy?

Form a committee which give advices, trainings for operators, share information, do researches.

■

Respondent 2
(Policy Maker)

A. Biographical Information

1	How old are you?	46 year old
2	How many years are you involving in USAL policy?	3 years
3	How many years have you been involved in the Information and telecommunication industry?	12 years
4	What is your position in your company or department?	Deputy Manager
5	What is your main role in your company or department?	Management
6	What are your main responsibilities?	Managing the implementation of the project on IT field

B. Questions on the USAL policy

Q (1) Under the current situation and conditions of South Africa, what are the most important factors (especially from the governmental factors) that impact on the viability of the USALs?

- (1) insufficient human capital,
- (2) lack of technical capability,
- (3) lack of interest group's involvement and stakeholder participation, and
- (4) subsidies

Q (2) What is your understanding of the USAL policy?

Rural areas are under served in term of telecommunication. These areas are defined in the legislation as having teledensities of less than 5%. Small businesses are therefore invited by the Minister of Communications to apply licenses to provide services and facilities to these under-served areas.

Q (3) How long have you been implementing USAL policy in your work?

About 3 years

Q (4) What are the main challenges that the USALs are facing? Name 3 to 5 in order of priority.

Technical skills

Capital (Capital-Intensive Business)

Coordination among operators, business owners and policy-makers

Q (5) What factors undermine USALs to succeed (governmental factors in particular and other all factors in generals)? Name 3 to 5 in order of priority.

- Lack of policy and financial support
- Lack of coordination among stake-holder
- Lack of Technical Capability
- Un-readiness of the regulator to support
- Lack of Political Will

Q (6) What factors support USALs' viability?

- Government support
- Improved technical capability

Q (7) How do these factors work together to affect the USALs?
These all factors are interlinked. One factor causes other factors.

Q (8) What do you think are the major reasons for the failures of USAL policy?

The business model of telecommunication industry is high density of investment of infrastructure, only the player which is big enough can survive. So in the USAL policy, without enough and continual support in the policy and financial aspects, the small operators are very difficult to build their own sustainable business model.

Q (9) How can we make sure USAL policy becomes successful (especially in relation with the governmental factors)?

- Infrastructural and financial support from the state
- Information sharing
- Networking

Q (10) Why are different interest groups not getting involved in the policy process?

Because of not having proper mechanism that connects the stake-holders.

Q (11) Why did ICASA and DOC delays in issuing the (USAL) license, the spectrum licence and frequencies regulation?

Unclear licensing process and lack of time frame

Q (12) What should government do to get USAL policy successful?

Q (13) What recommendations would you make about a successful USAL policy?

Dissemination of information and knowledge to the under-serviced areas.
Build capacity for the utilisation of information and communication
technology. Provide an enabling environment, to develop skills and to create
growth and expansion.



**Respondent 3
(Operator)**

A. Biographical Information

1	How old are you?	40 year old
2	How many years are you involving in USAL policy?	3 years
3	How many years have you been involved in the Information and telecommunication industry?	15 years
4	What is your position in your company or department?	Skilled Technician
5	What is your main role in your company or department?	Technician
6	What are your main responsibilities?	Operating the machines

B. Questions on the USAL policy

Q (1) Under the current situation and conditions of South Africa, what are the most important factors (especially from the governmental factors) that impact on the viability of the USALs?

- (1) Nature of market: high-cost but low-profit,
- (2) Unfair competition,
- (3) Encumbered license condition, and
- (4) Technical Capability (Insufficient Human Capital)

Q (2) What is your understanding of the USAL policy?

It is for the rural areas where the teledensity is so low.

Q (3) How long have you been implementing USAL policy in your work?

About 3 years

Q (4) What are the main challenges that the USALs are facing? Name 3 to 5 in order of priority.

Technical Capability (Insufficient Human Capital)
Policy and financial support
Lack of funding (insufficient funding)
Unfair Competition

Q (5) What factors undermine USALs to succeed (governmental factors in particular and other all factors in generals)? Name 3 to 5 in order of priority.

Lack of coordination among stake-holder

Lack of Technical Capability
Complex Application Process
Lack of policy and financial support
Insufficient Human Capital

Q (6) What factors support USALs' viability?

Policy and financial support from the state
Technical Capability
Coordination among stake-holder

Q (7) How do these factors work together to affect the USALs?

These factors are connected.

Q (8) What do you think are the major reasons for the failures of USAL policy?

Lack of capital
Lack of skilled workers
Insufficient infrastructure

Q (9) How can we make sure USAL policy becomes successful (especially in relation with the governmental factors)?

Infrastructural and financial support
Capacity-building

Q (10) Why are different interest groups not getting involved in the policy process?

I think it is because of networking problem.

Q (11) Why did ICASA and DOC delays in issuing the (USAL) license, the spectrum licence and frequencies regulation?

I don't know. The process is too long that makes the business many difficulties.

Q (12) What should government do to get USAL policy successful?

Infrastructural and financial support
Capacity-building
Networking

Q (13) What recommendations would you make about a successful USAL policy?

Correct political, policy, financial and infrastructural supports are indispensable.



**Respondent 4
(Operator)**

A. Biographical Information

1	How old are you?	40 year old
2	How many years are you involving in USAL policy?	2 years
3	How many years have you been involved in the Information and telecommunication industry?	11 years
4	What is your position in your company or department?	Trainer
5	What is your main role in your company or department?	Trainer
6	What are your main responsibilities?	Training the operators who are doing USAL in the fields

B. Questions on the USAL policy

Q (1) Under the current situation and conditions of South Africa, what are the most important factors (especially from the governmental factors) that impact on the viability of the USALs?

- (1) Nature of market: high-cost but low-profit,
- (2) Unfair competition,
- (3) Lack of policy and financial support
- (4) Unfair Competition

Q (2) What is your understanding of the USAL policy?

It is a license for Under-Serviced Area. Because of the situation of these areas, it is far and remote. The IT businesses are not there because of being high-cost and low-profit. So government introduce USAL policy that invited the small and median business to give IT service to these areas.

Q (3) How long have you been implementing USAL policy in your work?

2 years.

Q (4) What are the main challenges that the USALs are facing? Name 3 to 5 in order of priority.

Technology
Capital
Infrastructure

Q (5) What factors undermine USALs to succeed (governmental factors in particular and other all factors in generals)? Name 3 to 5 in order of priority.

Lack of policy and financial support
Unfair Competition
Lack of empowering and capacity building effort
Lack of Technical Capability
Lack of internal communication process

Q (6) What factors support USALs' viability?

Capacity building
State's support for finance and infrastructure

Q (7) How do these factors work together to affect the USALs?

Addressing one factor make other factors solved.

Q (8) What do you think are the major reasons for the failures of USAL policy?

Most people who participated in this were real rural and poor communities. No information sharing as people work in teams (because of lacking internal communications process)

Q (9) How can we make sure USAL policy becomes successful (especially in relation with the governmental factors)?

Infrastructural and financial support
Capacity-building
Subsidies

Q (10) Why are different interest groups not getting involved in the policy process?

Lack of awareness and cooperation.

Q (11) Why did ICASA and DOC delays in issuing the (USAL) license, the spectrum licence and frequencies regulation?

Complex and encumbrance licence process make it difficult.

Q (12) What should government do to get USAL policy successful?

Information sharing
Capacity building, giving training
Building infrastructure

Q (13) What recommendations would you make about a successful USAL policy?

Have government's strong commitment to the policy and the sufficient state's support in terms of finance and infrastructure which are necessary for USAL implementation, and satisfactory capacity building for the community and private businesses who are do USAL policy process.



**Respondent 5
(Operator)**

A. Biographical Information

1	How old are you?	36 year old
2	How many years are you involving in USAL policy?	3 years
3	How many years have you been involved in the Information and telecommunication industry?	12 years
4	What is your position in your company or department?	Skilled Technician
5	What is your main role in your company or department?	Technician and Trainer
6	What are your main responsibilities?	Finding the faults and fixing the machines

B. Questions on the USAL policy

Q (1) Under the current situation and conditions of South Africa, what are the most important factors (especially from the governmental factors) that impact on the viability of the USALs?

- (1) Encumbered license condition, and
- (2) Unfair competition,
- (3) Foreign ownership limitation.
- (4) Lack of Technical Capability

Q (2) What is your understanding of the USAL policy?

Trying to provide telecommunication services in the rural areas which are far, remote and so there is not enough service especially in terms of IT.

Q (3) How long have you been implementing USAL policy in your work?

3 years

Q (4) What are the main challenges that the USALs are facing? Name 3 to 5 in order of priority.

The challenge is the corporate governance issues which, most of this companies need to be empowered and capacity building effort should be speed up because in terms of the ITA most people who participated in this were real rural and poor communities and the licence conditions make it difficult for them.

Q (5) What factors undermine USALs to succeed (governmental factors in particular and other all factors in generals)? Name 3 to 5 in order of priority.

Lack of policy and financial support
Unclear licensing process
Un-readiness of the regulator to support
Unfair Competition
Lack of coordination among stake-holder
Lack of Technical Capability

Q (6) What factors support USALs' viability?

State's support
Capacity building
Networking among the public and private sectors

Q (7) How do these factors work together to affect the USALs?

These factors are correlated.

Q (8) What do you think are the major reasons for the failures of USAL policy?

Unqualified workers (most of them are from real rural and poor communities)
Nature of industry (high density of investment of infrastructure: only the player which is big enough can survive. So in the USAL policy, without enough and continual support in the policy and financial aspects, the small operators are very difficult to build their own sustainable business model.)
Liberalisation and market telecommunication environment (that exclude small business)

Q (9) How can we make sure USAL policy becomes successful (especially in relation with the governmental factors)?

Infrastructural and financial support

Q (10) Why are different interest groups not getting involved in the policy process?

Lack of clear working scheme among the stake-holders

Q (11) Why did ICASA and DOC delays in issuing the (USAL) license, the spectrum licence and frequencies regulation?

I think because of complex licensing process.

Q (12) What should government do to get USAL policy successful?

Q (13) What recommendations would you make about a successful USAL policy?

To have sufficient skills and abilities in terms of implementation process, the state should build the capacity of the community. Making the licensing process clear and quick.

■

Respondent 6
(Analyst)

A. Biographical Information

1	How old are you?	35 year old
2	How many years are you involving in USAL policy?	2 years
3	How many years have you been involved in the Information and telecommunication industry?	10 years
4	What is your position in your company or department?	Senior researcher
5	What is your main role in your company or department?	Researcher
6	What are your main responsibilities?	Conducting research on IT related policy

B. Questions on the USAL policy

Q (1) Under the current situation and conditions of South Africa, what are the most important factors (especially from the governmental factors) that impact on the viability of the USALs?

- (1) Delay in issuing licenses,
- (2) Aberration in policy,
- (3) Lack of political will and institutional fighting,

Q (2) What is your understanding of the USAL policy?

Letting small operators to do telecommunication businesses in the rural areas.

Q (3) How long have you been implementing USAL policy in your work?

2 years

Q (4) What are the main challenges that the USALs are facing? Name 3 to 5 in order of priority.

Capital shortage
Lack of skill
Technology

Q (5) What factors undermine USALs to succeed (governmental factors in particular and other all factors in generals)? Name 3 to 5 in order of priority.

Severely lacking human resources development
Lack of ability to implement the policy
Lack of consultation and support from other stakeholders like investors and suppliers, and absence of some important interest group's involvement.
No information sharing as people work in teams (because of lacking internal communications process)

Lack of policy (like asymmetrical interconnection price) and financial support from government.

Q (6) What factors support USALs' viability?

Capacity building
State's commitment

Q (7) How do these factors work together to affect the USALs?

These factors are interconnected.

Q (8) What do you think are the major reasons for the failures of USAL policy?

The implementation of the policy was not effective enough to fulfil the objectives of the policy because the separate projects did not have a systemic approach to solve the problems of all under-developed areas and the application process of the USAL was complex. Moreover the issuing of the spectrum licence is also delay.

Q (9) How can we make sure USAL policy becomes successful (especially in relation with the governmental factors)?

Infrastructural and financial support

Q (10) Why are different interest groups not getting involved in the policy process?

Lack of mechanism to connect them.

Q (11) Why did ICASA and DOC delays in issuing the (USAL) license, the spectrum licence and frequencies regulation?

Because of long and complex process

Q (12) What should government do to get USAL policy successful?

Q (13) What recommendations would you make about a successful USAL policy?

The state should build a simple and flexible regulatory environment that is the key to successful remote access. Moreover regulatory intervention needs to be made in critical areas. Competition should be used to allocate limited resources effectively within a simple but clear regulatory framework. Give more financial and technical support.

■

Respondent 7
(Analyst)

A. Biographical Information

1	How old are you?	49 year old
2	How many years are you involving in USAL policy?	4 years
3	How many years have you been involved in the Information and telecommunication industry?	12 years
4	What is your position in your company or department?	Senior researcher
5	What is your main role in your company or department?	Researcher
6	What are your main responsibilities?	Conducting research on IT related policy

B. Questions on the USAL policy

Q (1) Under the current situation and conditions of South Africa, what are the most important factors (especially from the governmental factors) that impact on the viability of the USALs?

- (1) Lack of political will and institutional fighting,
- (2) Determination on and allocation of subsidies, and
- (3) Un-readiness of regulator to support the USAL businesses.

Q (2) What is your understanding of the USAL policy?

It aims to narrow the gap of teledensity between urban and rural areas. Access to the telecommunication is very low in the rural areas. USAL license is granting to the small business to address this issue.

Q (3) How long have you been implementing USAL policy in your work?

4 years

Q (4) What are the main challenges that the USALs are facing? Name 3 to 5 in order of priority.

Capital intensive industrial
Human resources shortage
Enabling Infrastructures

Q (5) What factors undermine USALs to succeed (governmental factors in particular and other all factors in generals)? Name 3 to 5 in order of priority.

Lack of policy and financial support
Lack of coordination among stake-holder

Lack of Technical Capability
Nature of Market: High-Cost but Low-Profit

Q (6) What factors support USALs' viability?

State's policy, technical and financial support
Building Technical Capability
Coordination among stake-holder

Q (7) How do these factors work together to affect the USALs?

These are linked with each other. For example, financial factor like not having enough capital is also connecting with the community factor such as operating USAL in the rural and remote area.

Q (8) What do you think are the major reasons for the failures of USAL policy?

Lack of capital and infrastructure.
Also limitation on foreign ownership. The foreign ownership limitation of 25% on any one USAL is not conducive to investment and none of the USALs interviewed were able to attract foreign investment.

Q (9) How can we make sure USAL policy becomes successful (especially in relation with the governmental factors)?

Infrastructural and financial support
Capacity building

Q (10) Why are different interest groups not getting involved in the policy process?

Lack of state's initiative to create networking mechanism

Q (11) Why did ICASA and DOC delays in issuing the (USAL) license, the spectrum licence and frequencies regulation?

Because of complex process.

Q (12) What should government do to get USAL policy successful?

Q (13) What recommendations would you make about a successful USAL policy?

Create a conducive environment for the under-serviced areas. There is an important role of government in order to concert with communities, civil society stakeholders and the private sector. Correct policy support is very important to USALs to build a sustainable business model and attractive the investors.

■

Respondent 8
(Analyst)

A. Biographical Information

1	How old are you?	51 year old
2	How many years are you involving in USAL policy?	4 years
3	How many years have you been involved in the Information and telecommunication industry?	15 years
4	What is your position in your company or department?	Senior researcher
5	What is your main role in your company or department?	Researcher
6	What are your main responsibilities?	Conducting research on IT related policy

B. Questions on the USAL policy

Q (1) Under the current situation and conditions of South Africa, what are the most important factors (especially from the governmental factors) that impact on the viability of the USALs?

- (1) Delay in issuing licenses,
- (2) Determination on and allocation of subsidies,
- (3) Un-readiness of regulator to support the USAL businesses.

Q (2) What is your understanding of the USAL policy?

The basic objective of USAL policy is to increase telecom penetration rate in the under-serviced areas. For reach the aim, government grants license to small and medium enterprises to build and develop the telecom network for the rural people who do not have the access to ICT.

Q (3) How long have you been implementing USAL policy in your work?

About 4 years

Q (4) What are the main challenges that the USALs are facing? Name 3 to 5 in order of priority.

Lack of capital.
Shortage of skilled technicians
Infrastructural insufficiency

Q (5) What factors undermine USALs to succeed (governmental factors in particular and other all factors in generals)? Name 3 to 5 in order of priority.

Without access to capital and other resources
Low-density areas inhabited by low- income populations.
Inflexible and unsupportive regulatory regime
High cost of rolling out services
Complex and unobjective (contestable) licensing processes

Q (6) What factors support USALs' viability?

Technical capacity
Government support for finance and infrastructure
Stake holder involvement

Q (7) How do these factors work together to affect the USALs?

All of these factors are interlinked. The lack of empowerment and capacity-building from the state for the operators that are running the USAL business are linked with the lack of enough human resources and unsuccessful implementation of the policy.

Q (8) What do you think are the major reasons for the failures of USAL policy?

Lack of capital, capacity and political will.
Insufficient subsidies of the government, cumbersome application process and unclear application criteria for subsidies are also causing the financial difficulties for the SMME entrepreneurs who are historically disadvantaged group and most of them have not enough capital to compete with the incumbent IT companies such as Telkom and Vodacom that are also operating in this area.

Q (9) How can we make sure USAL policy becomes successful (especially in relation with the governmental factors)?

Success is due largely to capacity building, state's political will and extensive reliance on market forces to determine and allocate subsidies, minimal regulatory intervention, simple and relatively expeditious processing and effective government leadership.

Q (10) Why are different interest groups not getting involved in the policy process?

Lack of policy initiative to get involved all of these interest groups into the process.

Q (11) Why did ICASA and DOC delays in issuing the (USAL) license, the spectrum licence and frequencies regulation?

Because of (unnecessary) long steps.

Q (12) What should government do to get USAL policy successful?

Q (13) What recommendations would you make about a successful USAL policy?

Build infrastructure and provide capacity training.

Have a networking mechanism that will gather all the stake-holders in the process.

Give more training.

Provide sufficient support from the state such as building enabling environment for the operators, granting sufficient subsidies, as well as having clear funding model – whether reverse subsidies, low interest loans, or government guarantees.

Payment and subsidies should be tied to project implementation and service quality.

■

6.5. Factors prioritised by Respondents

Respondent 1 (Policy Maker)

No.	Factors		GF
1	Lack of Technical Capability	5	
2	Lack of coordination among stake-holder	4	
3	Lack of policy and financial support	4	√
4	Unclear Funding Framework	4	√
5	Foreign Ownership Limitation	4	√
6	Encumbered License Conditions	3	√
7	Lack of internal communication process	3	
8	Capital-Intensive Business	3	
9	Lack of empowering and capacity building effort	3	√
10	Lack of Political Will	2	√
11	Insufficient Human Capital	2	
12	Delay in issuing licenses	2	√
13	Unfair Competition	2	
14	Nature of Market: High-Cost but Low-Profit	2	
15	Lack of funding (insufficient funding)	2	
16	Unreadiness of the regulator to support	1	
17	Institutional Infighting	1	
18	Complex Application Process	1	√
19	Misusing the funding (Not for the intended purpose)	1	
20	Aberration in Policy	0	

Note:

Score of significant, 0 = no significance, 1 = lowest significance, 2 = low significance, 3 = significance, 4 = high significance, 5 = highest significance,

GF = Governmental factor

Respondent 2 (Policy Maker)

No.	Factors		GF
1	Insufficient Human Capital	5	
2	Nature of Market: High-Cost but Low-Profit	5	
3	Lack of funding (insufficient funding)	4	
4	Unfair Competition	4	
5	Lack of policy and financial support	4	√
6	Complex Application Process	4	√
7	Lack of coordination among stake-holder	3	
8	Lack of Technical Capability	3	
9	Foreign Ownership Limitation	3	√
10	Lack of empowering and capacity building effort	3	
11	Lack of Political Will	3	√
12	Aberration in Policy	2	√
13	Delay in issuing licenses	2	√
14	Misusing the funding (Not for the intended purpose)	2	
15	Lack of internal communication process	2	
16	Institutional Infighting	2	
17	Capital-Intensive Business	1	
18	Unclear Funding Framework	1	√
19	Encumbered License Conditions	1	√
20	Unreadiness of the regulator to support	0	√

Note:

Score of significant, 0 = no significance, 1 = lowest significance, 2 = low significance, 3 = significance, 4 = high significance, 5 = highest significance,

GF = Governmental factor

Respondent 3 (Operator)

No.	Factors		GF
1	Lack of policy and financial support	5	√
2	Lack of coordination among stake-holder	5	
3	Unreadiness of the regulator to support	5	√
4	Unfair Competition	5	
5	Lack of Technical Capability	4	
6	Lack of empowering and capacity building effort	4	√
7	Capital-Intensive Business	2	
8	Lack of Political Will	2	√
9	Insufficient Human Capital	2	
10	Encumbered License Conditions	2	√
11	Nature of Market: High-Cost but Low-Profit	2	
12	Institutional Infighting	2	
13	Unclear Funding Framework	2	√
14	Delay in issuing licenses	2	
15	Foreign Ownership Limitation	1	√
16	Lack of funding (insufficient funding)	1	
17	Lack of internal communication process	1	
18	Complex Application Process	0	√
19	Misusing the funding (Not for the intended purpose)	0	
20	Aberration in Policy	0	√

Note:

Score of significant, 0 = no significance, 1 = lowest significance, 2 = low significance, 3 = significance, 4 = high significance, 5 = highest significance,

GF = Governmental factor

Respondent 4 (Operator)

No.	Factors		GF
1	Lack of Political Will	5	√
2	Lack of policy and financial support	5	√
3	Capital-Intensive Business	4	
4	Lack of coordination among stake-holder	4	
5	Lack of Technical Capability	4	
6	Unreadiness of the regulator to support	4	√
7	Nature of Market: High-Cost but Low-Profit	3	
8	Institutional Infighting	3	
9	Insufficient Human Capital	3	
10	Foreign Ownership Limitation	2	√
11	Encumbered License Conditions	2	√
12	Lack of funding (insufficient funding)	2	
13	Lack of internal communication process	2	
14	Lack of empowering and capacity building effort	2	√
15	Misusing the funding (Not for the intended purpose)	2	
16	Complex Application Process	2	√
17	Unclear Funding Framework	2	√
18	Delay in issuing licenses	1	√
19	Aberration in Policy	1	√
20	Unfair Competition	0	

Note:

Score of significant, 0 = no significance, 1 = lowest significance, 2 = low significance, 3 = significance, 4 = high significance, 5 = highest significance,

GF = Governmental factor

Respondent 5 (Operator)

No.	Factors		GF
1	Lack of policy and financial support	5	√
2	Unreadiness of the regulator to support	5	√
3	Unfair Competition	5	
4	Lack of empowering and capacity building effort	5	√
5	Lack of Political Will	5	√
6	Lack of coordination among stake-holder	4	
7	Lack of Technical Capability	4	
8	Aberration in Policy	4	√
9	Delay in issuing licenses	3	√
10	Lack of internal communication process	3	
11	Encumbered License Conditions	3	√
12	Foreign Ownership Limitation	2	
13	Unclear Funding Framework	2	
14	Insufficient Human Capital	2	
15	Capital-Intensive Business	2	
16	Institutional Infighting	1	
17	Nature of Market: High-Cost but Low-Profit	1	
18	Lack of funding (insufficient funding)	1	
19	Complex Application Process	0	√
20	Misusing the funding (Not for the intended purpose)	0	

Note:

Score of significant, 0 = no significance, 1 = lowest significance, 2 = low significance, 3 = significance, 4 = high significance, 5 = highest significance,

GF = Governmental factor

Respondent 6 (Analyst)

No.	Factors		GF
1	Lack of coordination among stake-holder	5	
2	Lack of Technical Capability	5	
3	Nature of Market: High-Cost but Low-Profit	5	
4	Complex Application Process	5	√
5	Lack of policy and financial support	4	√
6	Insufficient Human Capital	4	
7	Lack of Political Will	3	√
8	Misusing the funding (Not for the intended purpose)	3	
9	Encumbered License Conditions	3	√
10	Capital-Intensive Business	3	
11	Lack of funding (insufficient funding)	3	
12	Institutional Infighting	3	
13	Unfair Competition	2	
14	Foreign Ownership Limitation	2	√
15	Lack of empowering and capacity building effort	2	√
16	Unreadiness of the regulator to support	2	√
17	Delay in issuing licenses	2	√
18	Lack of internal communication process	2	
19	Aberration in Policy	1	√
20	Unclear Funding Framework	0	√

Note:

Score of significant, 0 = no significance, 1 = lowest significance, 2 = low significance, 3 = significance, 4 = high significance, 5 = highest significance,

GF = Governmental factor

Respondent 7 (Analyst)

No.	Factors		GF
1	Lack of policy and financial support	5	√
2	Lack of coordination among stake-holder	5	
3	Aberration in Policy	5	√
4	Lack of Technical Capability	4	
5	Nature of Market: High-Cost but Low-Profit	3	
6	Lack of funding (insufficient funding)	3	
7	Lack of Political Will	3	√
8	Institutional Infighting	3	
9	Lack of internal communication process	3	
10	Insufficient Human Capital	2	
11	Unreadiness of the regulator to support	2	√
12	Lack of empowering and capacity building effort	2	√
13	Encumbered License Conditions	2	√
14	Complex Application Process	2	√
15	Delay in issuing licenses	2	√
16	Misusing the funding (Not for the intended purpose)	2	
17	Foreign Ownership Limitation	1	√
18	Unfair Competition	1	
19	Capital-Intensive Business	1	
20	Unclear Funding Framework	1	√

Note:

Score of significant, 0 = no significance, 1 = lowest significance, 2 = low significance, 3 = significance, 4 = high significance, 5 = highest significance,

GF = Governmental factor

Respondent 8 (Analyst)

No.	Factors		GF
1	Foreign Ownership Limitation	5	√
2	Lack of coordination among stake-holder	4	
3	Lack of Technical Capability	4	
4	Nature of Market: High-Cost but Low-Profit	4	
5	Lack of empowering and capacity building effort	4	√
6	Encumbered License Conditions	4	√
7	Unclear Funding Framework	3	√
8	Lack of policy and financial support	3	√
9	Unreadiness of the regulator to support	3	√
10	Lack of funding (insufficient funding)	3	
11	Unfair Competition	2	
12	Misusing the funding (Not for the intended purpose)	2	
13	Lack of internal communication process	2	
14	Institutional Infighting	2	
15	Complex Application Process	2	√
16	Lack of Political Will	1	√
17	Insufficient Human Capital	1	
18	Capital-Intensive Business	1	
19	Delay in issuing licenses	1	√
20	Aberration in Policy	0	√

Note:

Score of significant, 0 = no significance, 1 = lowest significance, 2 = low significance, 3 = significance, 4 = high significance, 5 = highest significance,

GF = Governmental factor