Determinants of Foreign Direct Investment of South African Telecommunications Firms into Sub-Saharan Africa

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Abstract

The study investigates the main factors considered by South African telecommunications firms when making a decision to undertake Foreign Direct Investment (FDI) into Sub-Saharan Africa (SSA). This encompasses the reasons for investing, the methods of entry into the identified market and the factors influencing their decision. The methodology employs a survey questionnaire which was sent to telecommunication firms representing more than 70% of the revenue generated by this sector in SSA. The research reveals that market size, regulatory environment and government policy are the three most important factors influencing the decision to undertake FDI. Furthermore, the main reasons for deciding to enter SSA are for market and profit growth due to saturation in their existing markets, as well as for diversification of risk. Telecommunications firms wishing to enter SSA must be prepared for an unstable and uncertain policy environment and understand that the cost of starting a new venture in SSA is high.

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Keywords Telecommunications Africa FDI

1 Introduction

Telecommunications has emerged as an important enabler of economic development, growth and technological innovation and has become the mainstay of the 'new' economy. It has also been an important driver of productivity gains. For example, it has been estimated that two-thirds of the United States acceleration in productivity growth in the late 1990s came from this sector (Coyle, 2001: 27). Fagerberg (1994) likewise finds that when comparing the relative contributions by factors of production and technological progress to growth in real per capita GDP in industrialised economies that three-quarters of it was as a result of technology. Lim (1994) finds similarly for developed countries between 1960 and 1985, whilst for developing countries the contribution of technical progress is a mere 14% and for Africa it is a startling 0%. Africa has thus generally found itself marginalised by technology (see Luiz, 2006).

Easterly (2001: 191) believes that it is possible for developing countries to jump right to the technology frontier because of the decentralised nature of the electronic revolution and the falling price of communications and transport means that they can borrow knowledge and technology from rich countries. He says that the new economy is a two-edged sword: 'it could leave behind Third World places that are too unskilled, too backward technologically, or too hostile to enterprise, but it could mean the decentralization of production to other Third World centers leapfrogging to the frontier'. Sub-Saharan Africa (SSA) has been more aggressively participating in the current telecommunications boon partly because it so badly under-invested in the previous generation of technology. The result is that cell phone usage has grown faster in SSA than any other region.

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Between 1999 and 2004 cell phone use in Africa grew at an annual rate of 58%, whereas in Asia, the region with the next highest growth, cell phone use *only* grew at 35% (McKinsey, 2010). Even with this impressive growth, Sub-Saharan Africa is still one of the few developing regions which still offer strong possibilities for growth in their telecommunications industry.

South African telecommunications firms have reached saturation in respect of subscriber growth in South Africa and their compound annual growth rate (CAGR) and average revenue per user (ARPU) are also declining (Finnie, Lewis, Lonergan, Mendler and Northfield 2003: 68). South African telecommunications firms are now concentrating on putting strategies in place to retain customers through providing additional products and services in their bundled offerings. These firms are therefore also looking at new markets for growth and SSA has become an attractive market because it has been relatively unexploited, its close location to South Africa which facilitates investment from a logistics and management perspective, and the close political and economic ties between the country and the rest of the region.

The purpose of this research is to investigate the main factors considered by South African telecommunications firms when making a decision to undertake Foreign Direct Investment (FDI) into SSA. The paper is structured as follows: The next section provides a literature review, which is followed by details on the methodology. Section 4 presents the results and analysis. Section 5 concludes.

2 Literature review

2.1 2.1 Motives for FDI by firms into SSA

The economic rationale of putting FDI into Africa is principally encouraged by the untapped large market potential, especially given the saturation of opportunities in developed countries. However, the FDI decision makers are not only concerned with the profit motive, but also with the risks and the level of uncertainty that relates to the African market (Dupasquier and Osakwe 2006; Luiz, 2009).

Harvey (1982) argues that global capital (as embodied in multi-national corporations (MNCs)), is in constant need of a spatial fix, as it increasingly faces the imperative of "grow or die", it must constantly seek new opportunities and find new territories where it can invest in order to fend off increasing competition at home and abroad. The spatial fix therefore implies geographical expansion into new territories and markets, where the labour costs and rents are cheaper and where capital is normally not readily available, a situation which tends to result in higher rates of return on capital investments and growth. In consequence Africa, is therefore positioned to be globalisation's "last frontier" (Shrestha and Smith 2009).

Four different motives for firms to invest across national borders have been identified (UCTAD, 1998):

- Market-seeking investments - to access new markets that are attractive due to their size, growth or a combination of both;
- Efficiency-seeking investments - aim at taking advantage of cost-efficient production conditions at a certain location. Important factors that are taken into consideration are the cost and productivity levels of the local workforce, the cost and quality of infrastructure services (for example transport and telecommunication) and the administrative costs of doing business (resources needed in terms of finance and time to deal with government institutions) in the country;
- Natural-resource seeking investments to exploit endowments of natural resources; and

- Strategic-asset seeking investments, oriented towards man-made assets, as embodied in a highly-qualified and specialised workforce, brand names and images as well as shares in particular markets.

2.2 Factors influencing FDI into SSA

There are various factors inhibiting FDI into Africa despite its enormously profitable opportunities. A concise summary thereof follows hereunder (Dupasquier and Osakwe, 2006: 250).

- Uncertainty which manifests itself in three different ways:
  - *Political instability.* The region is politically unstable because of the high incidence of wars, frequent military interventions in politics, as well as religious and ethnic conflicts (see Fedderke and Luiz, 2007).
  - *Macro-economic instability.* Instability in macro-economic variables as evidenced by the high incidence of currency crashes, double digit inflation, and excessive budget deficits, has also limited the region's ability to attract foreign investment.
  - *Lack of policy transparency:* In several African countries it is often difficult to identify the specific aspects of government policies which affect one's business. This is due in part to the high frequency of policy changes in the region and the lack of transparency in macro-economic policy. This in turn increases transaction costs, thereby reducing incentives for foreign investment (see Fedderke and Luiz, 2008).
- *Inhospitable regulatory environment:* The lack of a favourable investment climate contributes to the low FDI trend observed in the region. In the past, domestic investment policies—-for example, on profit repatriation and ownership laws – have not been conducive to the attraction of FDI.
- *GDP growth and market size:* Relative to several regions of the world, growth rates of real per capita output in Africa have been historically low and domestic markets small. This makes it difficult for foreign firms to exploit economies of scale and so discourages entry.
- *Poor infrastructure.* The absence of adequate infrastructure, such as telecommunication, transport, and power supply discourage foreign investment because it increases transaction costs and reduces the productivity of investments.
- *High protectionism*: The low integration of Africa into the global economy as well as the high degree of barriers to trade and foreign investment has been identified as a constraint to boosting FDI to the region.
- *High dependence on commodities*: Several African countries rely on the export of a few primary commodities for foreign exchange earnings. Because the prices of these commodities are highly volatile, they are highly vulnerable to terms of trade shocks, which results in high country risk thereby discouraging foreign investment.
- *Increased competition:* Globalisation has led to an increase in competition for FDI among developing countries thereby making it even more difficult for African countries to attract new investment flows. Relative to other regions of the world, Africa is regarded as a high-risk area. Consequently foreign investors are reluctant to make new investments in or move existing investments to the region.
- *Corruption and weak governance:* Weak law enforcement stemming from corruption and the lack of a credible mechanism for the protection of property rights are possible deterrents to FDI in the region.

- *Poor and ineffective marketing strategy:* In the past, African governments set up agencies to promote foreign investment without taking adequate steps to lift the constraints on foreign direct investment in the region. It is therefore not surprising that investment promotion activities in the region have not been as successful as expected. There is also the problem that Investment Promotion Agencies created by domestic governments, were highly bureaucratic, expensive to maintain, and have not been successful in reversing the declining trend in FDI flows to the region.

While the summary above offers some of the factors that influence decision makers to either move FDI into SSA or not, telecommunications firms have fundamentally more factors to consider over and above those mentioned. Guislain, Ampah, Besancon, Niang and Serot (2005) point out that there is a need to develop and enhance the capacity of Africa's Information and Telecommunications (ICT) institutions, including regulators, ministries, and regional bodies, lead the development of an interconnected region and implement sustainable regional strategies for integration and knowledge sharing. New ways to strengthen support for local ICT applications, which will help to create the requisite skills needed to adapt technologies to SSA's circumstances and enable Africans to create innovative solutions to their own development challenges, need to be explored to ensure access to rural people to bring them into the active economy and grow economic participation. Therefore, with this in mind, telecommunications firms need to be prepared for this level of responsibility.

3 Telecommunications market in South Africa

Telecommunications has been one of the fastest growing sectors of the South African economy due to the rapid growth of mobile telephony. Due to the country's telecommunications networks being 99.9% digital, it can be said to have the most developed telecommunications network in Africa. With a mobile phone penetration of 105.5% (BMI 2009) South Africa has the highest penetration in Africa which provides a platform for extensive broadband and Internet usage.

The telecommunications market in South Africa can be segmented into companies providing fixed line, mobile, broadband, Internet, television and media, domestic backbone and international connectivity services (ITU 2007). The main players in this market are the four Mobile Phone Operators; namely, Cell-C, MTN, Virgin Mobile, Vodacom and two fixed line operators, namely, Neotel and Telkom. The main segments where most telecommunications firms invest their money in South Africa is in the broadband and Internet market segments. This is supported by the fact that there are more firms operating in these segments than any other segment as can be seen in the Internet Service Provider Association list of members. The broadband and Internet Service Providers have been pushing hard to drive the cost of international connectivity down, so that the cost is lowered to the customer but also to increase their own margins.

The telecommunications market in South Africa is becoming more competitive and dynamic as result of the reduction in mobile termination rates and the introduction and operation of the SEACOM undersea cable providing international connectivity and a reduction in Internet costs. Although it is not expected that SEACOM will have a marked effect on the reduction in costs, the other undersea cables coming on line, such as Eassy and WACS, will have a greater impact on the reduction in costs. South Africa has also increased its ranking in the Business Environment Ratings to third place in Africa, behind Botswana and Nigeria (BMI .2009: 16) and this is in spite of the economic downturn experienced from the end of 2008. Forecasted growth possibilities, for broadband and Internet in South Africa, indicate that there is still potential for growth, and therefore, for companies to enter these segments (ITU 2007: 21). This is dependent on telecommunications firms taking the opportunities of installing broadband services, Neotel extending its services into the residential market, SEACOM expansion, Telkom entering the market with its own mobile services, the increase in the deployment of the fibre networks by MTN and Vodacom, Government providing

an enabling regulatory environment for competition to take place as well as the reduction of Telkom's dominant infrastructure position in the broadband segment.

4 Telecommunications market in SSA

It is evident from figure 1 that Africa is lagging behind in terms of telecommunications development in all segments of fixed line penetration, mobile penetration as well as broadband and internet penetration. According to ITU (2010) in the Africa region mobile penetration rates will reach an estimated 41% at the end of 2010 (compared to 76% globally) and internet user penetration will reach 9.6%, far behind the world average of 30% leaving a significant potential for growth. Fixed line usage has steadily declined due to the uptake in mobile telephone usage. Mobile networks have provided an alternative means for users to connect to the internet.

It is most likely that Africa's broadband market will be dominated by mobile broadband. Falling prices, increased licensing and the availability of high speed technologies are expected to change this over the coming years. Prices are expected to fall even further, hence there is a drive by operators to be more efficient in the utilisation of their resources, thereby keeping profits at acceptable levels (ITU 2008). The digital divide remains a major problem in terms of internet, and especially broadband uptake. It stands at less than half a percentile in Africa. For internet and broadband to be used, operators in African countries need to increase their international bandwidth connections and reduce their prohibitively high tariffs. Most international connections are dependent on the acquisition of bandwidth connections by government telecommunications firms. This would be a segment which can be exploited should the in-country regulatory authorities provide this as part of the private operator's telecommunication license agreement. Sarrocco (2001) suggests that the factors affecting usage are: lack of infrastructure, unfavourable regulatory environment, high pricing and an uncompetitive market structure.

5 Research methodology

A semi-structured interview survey process consisting of written questionnaires and one-on-one interviews that incorporated both structured as well as open-ended questions was used. The actual people chosen to be interviewed from each company were those in senior management that were the key decision makers, or at least part of the decision making process, in terms of foreign investment decisions in their respective firms - a senior Strategic Manager, COO or CEO – see Appendix A. The structured questionnaire attempted to identify the entry-mode characteristics of the telecommunications firms as well as the importance of the factors influencing the internationalisation of these firms. The open-ended questionnaire was designed to be probing in nature in order to identify how telecommunications companies manage the factors deemed present in an operational context.

The latter section of the structured questionnaire which used a Likert scale as a basis to determine the relative importance of each of the investment factors required a more involved statistical analysis before the data could be used and correctly interpreted. This is because the survey data captured is of an ordinal nature and cannot necessarily be assumed to be linearly correlated with the underlying attitudes of the Likert scale of the survey i.e. one cannot directly, accurately interpret responses from the point scale without some mathematical means of normalising or rescaling it first. Stacey (2005) has developed a distribution-fitting approach which allows for the conversion of such data into a more representative form which yields results of greater accuracy and validity than alternative methods. Hence this analysis has been used in this research to facilitate interpretation of the degree of relative importance of the investment factors. This allowed for each factor to be interpreted and ranked.[1]

[1]The approach calculates item means and standard deviations of the sample, rather than respondent level data. Respondent level data can however be generated from estimated threshold values and the estimated means and

When analysing the results of the distribution-fitting analysis performed on the survey data, Stacey's (2005) statistical methodology imply that the following interpretations needed to be made to identify factors as *very important, important* and *less important.* If the mean for an investment factor response was appreciably greater than zero ($\mu >> 0$ as determined by the hypothesis test) then that factor is statistically significantly more important than the overall average importance of all the factors and can hence be interpreted as being *very important* relative to other factors. If the mean for an investment factor response was very close to zero then it can be interpreted as being *important* (the average) relative to other factors. If the mean for an investment factor response was appreciably less than zero then it can be interpreted as being *less important* relative to other factors.

The following major telecommunication firms operate in two or more African countries: Bharti (formerly Zain/Celtel), Globacomm, TIGO (formerly Millicom), Orange (France), Orascom, Vodafone and then the South African companies, MTN and Vodacom. These companies also provide internet, broadband, international and local backbone services. In the television and multimedia segment, two operators are present namely, Multichoice/DSTV and e-TV. The fixed line penetration in Sub-Saharan Africa is low (0.99 telephone lines per 100 inhabitants) and therefore the companies representing these fixed line operators have not been considered or included in this report. In this research, the population includes the larger South African telecommunications firms that have telecommunication operations in South Africa presently, and have or are in the process of setting up operations in SSA. Based on these requirements, 34 South African telecommunications firms were identified as the sample population. A total of 21 responses (completed questionnaires) were returned, representing a 62% response rate. The interviews were conducted between August and November 2010.

6 Research results and discussion

Using the revenue analysis compiled by Hua .(2010) it is estimated that the 21 companies that participated in this research represent 73% of the total revenue generated in South Africa and Sub-Saharan Africa combined. Table 1 shows the revenue generated by each company during the 2009/10 financial year. The results can therefore be considered representative of the views of South African telecommunications firms who are operating in SSA or in the process of starting operations in SSA.

According to Roseboro (2010: 38) the total revenue market in SA and SSA combined in 2009 is $47.3 billion and using a US Dollar/Rand exchange rate of 8.4 this is equivalent to R 399,34 million. Thus, approximately R 108,81 million (27%) is not accounted for in this study. It can be attributed to the telecommunications firms Bharti, Orascom and TIGO/Millicom which only operate in SSA

standard deviations. In the case of normal underlying distributions, the rescaled values can be calculated as the mean or expected value of the truncated normal distribution between the two threshold values. This is given in the formula:

$$Y_{k,j} = \frac{\int_{\dot{\tau}_{k-1}}^{\dot{\tau}_k} x.e^{\frac{-\left(x-\dot{\mu}\right)^2}{2\dot{\sigma}^2}} dx}{\int_{\dot{\tau}_{k-1}}^{\dot{\tau}_k} e^{\frac{-\left(x-\dot{\mu}\right)^2}{2\dot{\sigma}^2}} dx}$$

Where $Y_{k,j}$ is equal to the rescaled value for the k^{th} ordinal response to the j survey item, and are the estimated mean and standard deviation of the normal distribution fitted to the responses to the j^{th} survey item (Stacey, 2005: 21).

north of SA and the companies which only operate in SA, such as Virgin Mobile, Cell-C, Neotel, Infraco and a myriad of other smaller telecommunications firms.

6.1 The preferred entry method of South African telecommunications firms when entering SSA

Previous studies in the areas of international trade, industrial organisation, and market imperfections have identified a number of factors that influence the choice of an entry mode for a selected target market. Dunning (1988), proposed a comprehensive framework, which stipulated that the choice of an entry mode for a target market is influenced by three types of determinant factors: ownership advantages of a firm (O), location advantages of a market (L), and internalisation advantages of integrating transactions within the firm (I). The questionnaire survey requested respondents to indicate which method was the preferred entry channel when deciding to invest in SSA in order of importance. The five entry methods were Mergers and Acquisitions, Joint Venture as a majority shareholder, and Joint Venture as a minority shareholder, Greenfield Investment and Brownfield Investment. Figure 2 shows the results of the preferred entry channels based on the respondents' preferences.

The results of the study show that the most preferred entry method is a Joint Venture (JV) as a majority shareholder, with Mergers and Acquisitions being the next preferred entry method. In Mergers and Acquisitions the respondents indicated that they would ensure majority shareholding as well. Respondents indicated that Greenfield investment is not a preferred entry method because of the high capital outlay required by the firm. They are considered where there is no current service of the same kind as the one which the foreign company can deliver. In SSA this is no longer the case as most telecommunication segments covered in this study already exist. In the case of international backbone connectivity and media and television, however, there may still be options for Greenfield investments, as not all the countries in SSA have pay-TV or cheap international connectivity available. JVs with a minority shareholder was the least preferred entry method due to the level of investment required, limited return on investment and normally onerous conditions attached to the minority shareholding such as investment level, value of dividend pay-outs and profit ratios, and lack of management control (see Meyer et al, 2009).

Joint Venture (JV) with a majority shareholding and Mergers and Acquisitions were the most preferred entry channels due to the company having the most say over the use of the capital invested as well as having management control, thereby setting policy and direction. It also allows the company to gain access to resources in-country immediately and to start operating and generating revenue and also institute its brand if it so wishes. A case in point was where Vodafone decided to keep the Vodacom brand in South Africa because of its very strong brand recognition. By gaining access to the existing company's resources local knowledge is immediately available and distribution outlets for products and services are in place. Knowledge of the regulatory environment and governmental environment can be tapped into via the existing relationships. The foreign company would gain the advantage of inheriting the existing telecommunications license and therefore would not have to bid or pay for a new license. The foreign company will also have access to the existing network infrastructure and will be able to generate revenue immediately, although experience has shown that additional roll-out of equipment will be required to win more customers and maintenance of the existing network will be required to improve the availability of the telecommunications network.

6.2 Motives of South African telecommunications firms when entering SSA

Four different motives for firms to invest across national borders came to the fore during the literature review namely market seeking investment, efficiency seeking investment, resource seeking investment

and strategic investment. Figure 3, which is derived from the results of the survey questionnaire, depicts the main reasons why companies invest or wish to invest in SSA and their relative importance. It can be concluded that the two main motives why telecommunications firms decide to invest in SSA are market seeking motives and strategic motives. This can be accredited to the low penetration rate of telecommunications products and services, large populations and therefore large potential markets in SSA.

Since the investment required by telecommunications industry are normally very large, it is important that they are able to recoup this large investment in the shortest period of time and hence the drive for market and profit growth. Telecommunication firms which roll-out additional telecommunications equipment and network infrastructure quicker than their competitors and deliver additional products and services will generally encourage greater use of their network. Another reason why companies tend to venture into SSA is to defend the market by responding to competitors.

The other key driver that presented itself was the strategic motive. Respondents indicated the need to diversify their risk across countries so that not all the investment and revenue derivation is in one country. By having a portfolio of operations the group company can draw expertise from various countries and can create synergies by using the same cost management measures across all countries and reduce costs globally. By having more operations, it is possible, due to the magnitude and number of operations, to negotiate better deals with suppliers/vendors and even improve tactics with regulatory authorities. Efficiency and resource motives were not considered as main drivers by the respondents for wishing to enter into a telecommunications market in SSA.

6.3 Factors which influence Foreign Direct Investment by South African telecommunications firms into SSA

The data collected from the respondents was used to determine their views and preferences as to which factors influenced them when making the decision to invest or not in telecommunications in SSA. The Distribution Fitting Algorithm developed by Stacey (2005) was used to transform the data in order to rescale the ordinal level data to interval level data for analysis. Table 2 shows the results of Stacey's Distribution Fitting Algorithm, where the standardised means are shown. Two sets of results emerge from the rescaling of the results. Firstly, the mean value for each factor can be interpreted to determine the importance of the factor and, secondly, the p-values indicate which factors are statistically significant to an Alpha value of 5%.

The results of the table are explained below in terms of their relative importance and statistical significance.

6.3.1 Factor 1: Market size

This factor was seen as statistically significant with a standardised mean (μ) of 1.45 and a p-value of 0.0000. The interpretation is therefore that this factor is very important when deciding to invest in a SSA country.

Market size is indicative of the potential number of customers the telecommunications firm can attract in the particular country, the possible spend of the customers and the potential revenue for the firm. Previous research suggests that FDI is determined by a country's locational advantages relative to alternative production sites (Dunning 1998, UNCTAD 2010). The initial investment will be based on this projection and this will also be one of the factors on which the business plan is based. Roseboro (2010: 38) forecasts the SSA telecommunication annual market growth at 11% compounded between 2010 and 2014 which is the second highest of all the regions analysed.

The respondents indicated that this factor drives the company's desire to invest, knowing that the upfront investment will be realised after a predetermined period of time. Another factor which is considered as important for companies deciding to invest is the telecommunications services penetration rate. In most SSA countries this is low, (ITU 2007) and thus leads to a potential larger

telecommunication customer base, specifically when wireless (mobile) can be used to link up customers to an operator's telecommunication network.

6.3.2 Factor 2: Political stability

Political stability includes change in governments and arbitrary government decisions which can negatively affect a company's livelihood and risk. This factor was seen as statistically not significant with a standardised mean (μ) of 0.09 and a p-value of 0.6404. The interpretation is therefore that this factor is important (average) when deciding to invest in a SSA country.

Political stability can be seen as a determinant of the longevity of the investment in terms of changes by governments in the investment rules. Respondents stated that should the rules change negatively to the detriment of the company, the company may decide to leave the country or abandon its investment plans. Respondents also indicated that changes in governments in SSA have thus far not affected telecommunications firms operating in these countries. Key to this factor is that new governments honour the previous governments' commitments and policy. Respondents also stated that they operate with a sense of neutrality to the incumbent government, which means that they take a longer term view and that changes in governments will occur through either democratic or non democratic means but that these are not expected to affect core operations beyond the short term. South African telecommunications firms therefore consider this factor as important but not critical in the decision to invest.

6.3.3 Factor 3: Macro-economic stability

Macro-economic stability indicates how enabling the economic environment is to investment as it allows a company to forecast its growth and returns into the future and thus enables smooth investment activities. This factor was seen as statistically not significant with a standardised mean (μ) of -0.08 and a p-value of 0.5055. The interpretation is that this factor is important when deciding to invest in a SSA country but not critical. The main reason for this was that companies felt that they could 'hedge' their activities to compensate for macro-economic instability. Many of their activities were also dollar denominated which would provide cover in periods of instability.

6.3.4 Factor 4: Government policy

Government policy includes transparency of policy, clarity of the investment terms and conditions for it to operate in the specific country. This factor was seen as statistically significant with a standardised mean (μ) of 0.27 and a p-value of 0.0039. The interpretation is therefore that this factor is very important when deciding to invest in a SSA country.

Good, open policy which creates certainty and predictability is an enabler of investment and removes any insecurity. Kazmi and Manarvi (2009) concluded that sound government policy has a positive influence on FDI in the ICT industry. Respondents also mentioned that tax reductions, tax deferments and import duty exemptions make their investment decisions more attractive as it gives them an opportunity to improve their financial prospects. Respondents indicated that slow progress by governments in terms of policy on privatisation and the protection of state owned enterprises from competition result in MNCs reconsidering their investments as it is non conducive to a level playing field.

6.3.5 Factor 5: Regulatory environment

The regulatory environment refers to the regulator creating an enabling environment by developing sound ICT institutions and policy, objective tariff management and setting realistic roll-out and performance obligations. This factor indicates the regulator's ability to have a "soft touch" approach in regulating the telecommunication sector. This factor was seen as statistically significant with a

standardised mean (μ) of 0.37 and a p-value of 0.0021. The interpretation is therefore that this factor is very important when deciding to invest in a SSA country.

In many SSA countries the regulator is viewed as an extension of government and is subject to government whims and dictates (Minges, Briceno-Garmendia, Williams, Ampah, Camos and Shkratan 2008). Regulators need to create an environment in which competition can thrive and therefore need to move away from a monopolistic environment. According to Minges et al. (2008) effective regulators depend on legal frameworks that make them accountable to the public, encourage them to operate transparently, give them enforcement powers and other tools they need to do their job and grant them autonomy and freedom from political interference.

SSA can be an unpredictable location and therefore companies generally dedicate a complete department to manage the regulatory environment. Lobbying of the regulator was seen as important so that transparency is always in place and to ensure that the regulator considers the views of the players in its decision-making. A particular factor that was mentioned repeatedly in SSA was that regulators could improve the profit levels and cash flows of companies by, for example, providing regulations enforcing network and infrastructure sharing thereby reducing a new entrant's capital expenditure investment (Molnar 2008). Most respondents felt that the regulatory environment can positively influence and very easily negatively influence their decision to invest since onerous obligations can place unexpected financial pressure on telecommunications firms.

6.3.6 Factor 6: Infrastructure and logistics

According to Luiz (2010) investment in maintaining existing infrastructure has lagged, leaving many African countries with degraded and inefficient electricity services, poor quality roads, railways, ports and telecommunications networks. This infrastructure assists in the efficient roll-out and maintenance of a telecommunications network. This factor was seen as statistically not significant with a standardised mean (μ) of -0.10 and a p-value of 0.4935. The interpretation is therefore that this factor is of average importance when deciding to invest in a SSA country.

Respondents generally saw infrastructure and logistics as being both an opportunity and a threat but not of such a level that it would prevent them from investing. Most respondents did not see this factor as being insurmountable. They did however state, to overcome infrastructure and logistics problems this would add cost and therefore reduce possible profits. For example, shortages of electricity contribute to higher costs, as service providers must rely on their own generators to power their telecommunications equipment (Minges et al. 2008). Telecommunications firms have built large power generating plants at their operations in Africa to ensure continuity of service and to prevent service disruption to their customers. Respondents generally argued that poor infrastructure in SSA was to be expected and therefore as firms they have experience in developing their own logistics capacity.

6.3.7 Factor 7: Protectionism and openness of the economy

Protectionism and openness of the economy refers to the ability of governments to block foreign companies from entering its market place and generally involves policies protecting incumbent government operators. This factor was seen as statistically not significant with a standardised mean (μ) of -0.05 and a p-value of 0.6919. The interpretation is therefore that this factor is of average importance when deciding to invest in SSA.

Although protectionism is less prevalent in SSA today than it was a decade ago, some countries still put measures in place designed to give locals special interests in a variety of forms including local equity, preferential procurement, and minimum local labour hiring requirements. For example, several governments place local shareholding in a foreign MNC as a prerequisite for entry into the country. Respondents indicated that they would consider minority shareholding in local companies to overcome this problem especially in lucrative SSA markets. They also recognised that this had

other advantages as local partners tend to have better connections with the regulators, understand the local environment more accurately, and can advise on the home political economy.

6.3.8 Factor 8: Competition

Competition in SSA has increased substantially in the past few years and a wealth of opportunities have opened up for South African telecommunications firms in SSA. This factor was seen as statistically not significant with a standardised mean (μ) of -0.08 and a p-value of 0.7786. The interpretation is therefore that this factor is of average importance when deciding to invest in a SSA country.

Respondents felt that competition was important as it allowed the innovative companies to realise new products and services which could be used in other developing countries. It also allowed a company to compare itself against other similar companies in the market and to improve on its performance, capabilities, products and services. They therefore are fine with competition but in some SSA countries competition is deemed unfair when the government supports the incumbent state-owned operator and blocks fair competition through policy. Respondents indicated that competitors can be your allies especially when engaging government on aspects negatively affecting the operators. The challenge is to create a culture amongst competing operators that will allow for workable and equitable interconnect agreements as well as regulation surrounding infrastructure sharing which allows operators to save on capital expenditure and customers to pay less for their products and services, but still being able to make a realistic profit (Molnar, 2008).

6.3.9 Factor 9: Country governance

This factor refers to the ability of governments to manage bureaucracy, bribery and corruption in their countries. Most South African telecommunication firms subscribe to the Foreign Corrupt Practices Act (FCPA) and the Sarbanes-Oxley Act which limits their ability to engage in unethical behaviour. This factor was seen as statistically not significant with a standardised mean (μ) of 0.08 and a p-value of 0.5724. The interpretation is therefore that this factor is of average importance when deciding to invest in a SSA country.

Kaufmann (2004) argues that corruption is a key determinant of a country's global competitiveness and that corruption continues to prevail in the interaction between MNCs of the rich/investing world and the public sectors of emerging countries. Bureaucracy and red tape is widespread in many developing countries and this causes delays due to in-action associated with permits and compliance which can cause loss of revenue and often results in 'facilitation' fees being paid. Respondents indicated that bribery and corruption is still active in SSA but that they would rather abandon the investment than take part in bribery due to the reputational damage they may suffer and the penalties which may be levied against them.

6.3.10 Factor 10: Project financing

This factor indicates the importance of obtaining project financing and the financial challenges involved and is directly related to the risks involved in an investment. This factor was seen as statistically not significant with a standardised mean (μ) of 0.06 and a p-value of 0.8387. The interpretation is therefore that this factor is of average importance when deciding to invest in a SSA country.

Africa still possesses very thin financial markets. The result is that it affects access to private trade finance and other financial instruments to support MNC operations in Africa and that limited use of political risk insurance compounds the problem arising from this. It also significantly increases non-modal costs of trade and investment in African countries (Broadman 2007). Due to the strict requirements of entities who provide project financing in SSA, most companies generally seek other forms of financing such as shareholder loans, long term loans or bridging finance from banks or use

retained income to expand operations (Broadman 2007). Respondents indicated that the cost of capital, hurdle rate and risk premiums are much higher than for developed countries and therefore project financing is expensive and pushes up the cost of doing business and also delays realisation of cash flow. To obtain this type of financing from vendors, a telecommunications firm will have to go into a long term supply contract which could lead to higher capital expenditure in the future. This has a negative effect on the profit margin of the company as the company has to absorb these costs. Respondents also mentioned that the best loans are those that are taken out in the currency of the country in which the company is to operate as it hedges the company against exchange rate fluctuations.

6.3.11 Factor 11: Currency issues

This factor indicates the effect of currency fluctuations and exchange rate variations on the company in order for it to do business – it includes exposure due to exchange rates, asset valuation, and foreign taxation and inflationary and transfer pricing. This factor was seen as statistically significant with a standardised mean (μ) of -0.48 and a p-value of 0.0316. The interpretation is therefore that this factor is less important when deciding to invest in a SSA country.

In countries where the operating companies price their products and services in the currency of the country, whilst the price of the equipment to provide these products and services is linked to the dollar, then the company will experience cost shocks associated with exchange rate variations. The respondents indicated that the effect of foreign exchange variations should be built into the business plan and that this factor is not critical and that there are numerous hedging strategies to compensate for foreign exchange variations such as forward cover. This cost will however have an impact on profit and ultimately retained earnings. Most of the revenue of the companies surveyed is US dollar based and therefore fluctuations do not directly impact the profit line.

6.3.12 Factor 12: High investment and operating costs

This factor was seen as statistically not significant with a standardised mean (μ) of -0.21 and a p-value of 0.2420. The interpretation is therefore that this factor is of average importance when deciding to invest in a SSA country.

Building new telecommunications networks and services is an extremely expensive business and upgrading and maintaining existing networks can be just as costly as they both require huge amounts of capital expenditure. Respondents indicated that during the due diligence they investigate the condition of the existing infrastructure and normally find that the infrastructure needs replacement or maintenance in SSA. These factors are built into the business plan and the costs and risks are passed onto the customer through higher tariffs. Additional costs include power supply problems which require one's own supplies, the high cost of travel intra and internationally, high hotel and rental costs for staff on initial start-up, high import duties, and taxes on capital items. To compound the problem, population density is relatively low in SSA which means large infrastructure rollouts and operational costs over vast areas.

6.3.13 Factor 13: Labour considerations

This factor applies to the supply and cost of local labour, the labour skills level and its reliability, labour market rigidities, the ease of hiring foreign workers, the productivity level and the quality of educational institutions that produce those skills. This factor was seen as statistically significant with a standardised mean (μ) of -0.51 and a p-value of 0.0050. The interpretation is therefore that this factor is less important when deciding to invest in a SSA country.

It is always an issue to find and retain staff with the required skills to operate and maintain complex telecommunications systems and processes and to provide specialised, high level support for problem resolution and emergencies. Many telecommunications firms import skills into the country

or contract vendors at a high premium to provide the required level of support. The availability of labour with the appropriate skills was reported to be a major locational determinant and is of particular importance for FDI projects related to IT services (UNCTAD 2004). Respondents indicated that skills are available but at a price. Due to the cost of imported skills, operators tend to develop, train and up-skill the local staff by sending them on specialised courses. Skills transfer to local staff is very important as this reduces costs of imported skills in the long term and therefore builds the sustainability of the business. It also constructs credibility with the local government and enhances the brand within that locale as the population identify it as one of their own. It came out as a less important factor because companies could put strategies in place to lessen its impact.

6.3.14 Factor 14: Cultural considerations

This factor refers to becoming familiar with and accepting the local customs, rituals, social and business norms, religions and language. This factor was seen as statistically significant with a standardised mean (μ) of -0.81 and a p-value of 0.0010. The interpretation is therefore that this factor is less important when deciding to invest in a SSA country.

Mbarika, Okoli, Byrd and Datta (2005) state that SSA has high levels of ethno-linguistic fractionalization offering a rich variety of languages, social mores and cultures and these are likely to moderate the relationship between ICT investments and performance outcomes, differently from those in Western countries. Organisational and management changes, including the redesigning of wider business processes and the development of new business or organisational cultures, are important as they create changes in systems, procedures, skills and attitudes, which lead to improvements in worker productivity (Pigato 2001). Respondents indicated that it is important that the expatriates who are starting up the new company should be introduced to the culture of the people of the country in which they are to operate through awareness sessions and careful cultural sensitivity and diversity management. They also indicated that it is important to recruit and employ local senior managers on board quickly and debate what works with the local people. The reason that the factor appears to be relatively less important is because it can be mitigated through appropriate strategies of cross cultural management and because of the advantage that South Africans have with diversity management given its recent history.

7 Conclusion

South African business and investment in Africa has growing phenomenally and the result has been an impressive learning by doing as latecomers follow the example and experiences of the trailblazers. Whilst old economy sectors like mining were at the forefront of South African FDI into SSA, newer sectors like Information and Telecommunications have been able to draw on their fundamental success factors and learn from their experiences. This paper examined the main factors considered by South African telecommunications firms when making a decision to undertake FDI into SSA. The research reveals that the market size, regulatory environment and government policy are the three most important factors influencing the decision to undertake FDI. Furthermore, the main reasons for deciding to enter into a country in SSA are for market and profit growth due to saturation in their existing markets, as well as for diversification of risk.

Telecommunications firms wishing to enter SSA must be prepared for an unstable and uncertain policy environment and understand that the cost of starting a new venture in SSA is high. From a policy perspective, the study highlights the importance of governments in emerging markets of getting the basics right. In particular building the capacity of the telecommunications regulator to ensure that it is able to provide a fair and predictable environment so that telecommunications firms can commit sizeable investments for the long term. ICT can play an important role in promoting economic development and prosperity on the continent and it is therefore vital that this sector thrives. The surveyed firms indicated that they were willing to deal with the high costs of doing

business in SSA and would invest in building infrastructure and carry the risks of the macroeconomic environment but what they need in return is that the rules of the game are sound and stable. Trade-offs do not need to exist between the needs of the government to promote development and that of firms to create profits but that requires solid institutions which underpin this sector. The regulator can be an enabler or an obstacle to telecommunications progress in a country and therefore has to be managed through effective communication and relationships. In SSA countries regulators often have low autonomy from political interference and generally lack experience. In many cases regulations are copied wholesale from other countries without due consideration to the unique situations which exist in individual countries in SSA. Telecommunications firms can assist governments and regulators in SSA by offering human resources, who are normally well trained and experienced, to assist in training and developing the government's and regulator's staff in technical matters. From an investor's perspective identifying local partners in the country who have good relationships with the government and the regulator can ensure initial trust and open up communication between the parties.

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Table 1: Annual revenue generated per company surveyed

#	Company	Availability of Financial Information	Revenue Generated (FY 2009/10) in Rm		
			South Africa (SA)	Sub-Saharan Africa (SSA)	SA and SSA Combined
1	Africa on Line	Yes	0	154	154
2	Altech	Yes	8,520	690	9,210
3	Blue Label Telecoms	Yes	15,780	1,248	17,028
4	Business Connection (BCX)	Yes	5,075	421	5,496
5	CIV-Darkfibre Africa (DFA)	No	-	-	-
6	CMC Networks	No	-	-	-
7	e-TV	No	-	-	-
8	Gateway International	Yes	0	2,934	2,934
9	IBM[i]	Yes	16,120	7,635	23,755
10	iBurst	No	-	-	-
11	Internet Solutions (IS)	Yes	1,016	326	1,342
12	iWay Africa	No	-	-	-
13	MTN Business	Yes	33,149	90,212	123,361
14	MTN Group International				
15	Multi-Choice	Yes	12,300	67	12,367
16	Plessey	Yes	1,524	489	2,013
17	Posix Systems	No	-	-	-
18	Telkom Business	Yes	34,738	2,198	36,936
19	Telkom Group International				
20	Vodacom Business	Yes	50,431	5,510	55,941
21	Vodacom Group International				
	Total Revenue Market Share for the 15 Companies, which have published financials in Rm		178,653	111,884	290,537

Source: Hua, 2010

[i] The disaggregated revenue data for SSA and RSA is not available and therefore an assumption of 7% of revenue has been made.

Table 2: Results of Stacey's Distribution Fitting Algorithm

	Market Size	Political Stability	Macro-economic Stability	Government Policy	Regulatory Environment	Infrastructure and Logistics	Protectionism and Openness of Economy	Competition	Country Governance	Project Financing	Currency Issues	High Investment and perating Costs	Labour Considerations	Cultural Considerations
Observed														
Not Important	0	0	0	0	0	0	0	0	0	1	1	0	0	2
	0	1	0	0	0	0	0	2	0	1	0	2	1	2
	0	1	1	0	0	2	1	4	0	3	6	1	6	5
Important	1	5	6	1	1	6	4	3	5	2	3	1	4	4
	0	1	5	5	5	4	10	3	6	4	6	8	5	5
	3	7	7	12	9	6	3	2	5	3	2	7	4	2
Extremely important	17	6	2	3	6	3	3	7	5	7	3	2	1	1
Solver parameters														
μ	1.313	0.246	0.105	0.384	0.466	0.090	0.134	0.107	0.238	0.218	-0.209	0.003	-0.227	-0.466
σ	0.832	0.719	0.447	0.297	0.379	0.537	0.432	1.041	0.531	1.042	0.751	0.639	0.575	0.752
Expected														
Not Important	0.006	0.122	0.002	0.000	0.000	0.021	0.001	1.127	0.007	0.903	0.736	0.146	0.206	1.494
	0.036	0.555	0.079	0.000	0.000	0.281	0.050	1.526	0.127	1.313	1.826	0.789	1.224	2.824
	0.219	2.106	1.375	0.016	0.074	2.104	1.110	2.854	1.282	2.585	4.202	3.077	4.530	5.187
Important	0.560	3.288	4.438	0.718	1.000	4.417	4.149	2.916	3.417	2.766	4.347	4.451	5.601	4.377
	1.269	4.398	7.155	5.943	4.781	6.042	7.297	3.173	5.752	3.134	4.143	5.113	5.098	3.493
	2.649	4.848	5.916	11.075	9.238	5.330	6.279	3.332	6.224	3.434	3.290	4.423	3.159	2.307
Extremely Important	16.262	5.683	2.035	3.247	5.906	2.804	2.115	6.071	4.192	6.865	2.456	3.001	1.183	1.318

χ2 contributions														
Not Important	0.006	0.122	0.002	0.000	0.000	0.021	0.001	1.127	0.007	0.010	0.094	0.146	0.206	0.171
	0.036	0.357	0.079	0.000	0.000	0.281	0.050	0.148	0.127	0.075	1.826	1.857	0.041	0.240
	0.219	0.581	0.102	0.016	0.074	0.005	0.011	0.460	1.282	0.067	0.769	1.402	0.477	0.007
Important	0.347	0.891	0.550	0.111	0.000	0.567	0.005	0.002	0.734	0.212	0.417	2.675	0.458	0.033
	1.269	2.626	0.649	0.150	0.010	0.690	1.001	0.009	0.011	0.240	0.832	1.630	0.002	0.650
	0.047	0.955	0.199	0.077	0.006	0.084	1.712	0.533	0.241	0.055	0.506	1.502	0.224	0.041
Extremely Important	0.033	0.018	0.001	0.019	0.002	0.014	0.371	0.142	0.156	0.003	0.121	0.334	0.028	0.077
36.77055104	1.956	5.550	1.581	0.373	0.092	1.663	3.151	2.421	2.556	0.661	4.566	9.546	1.436	1.219

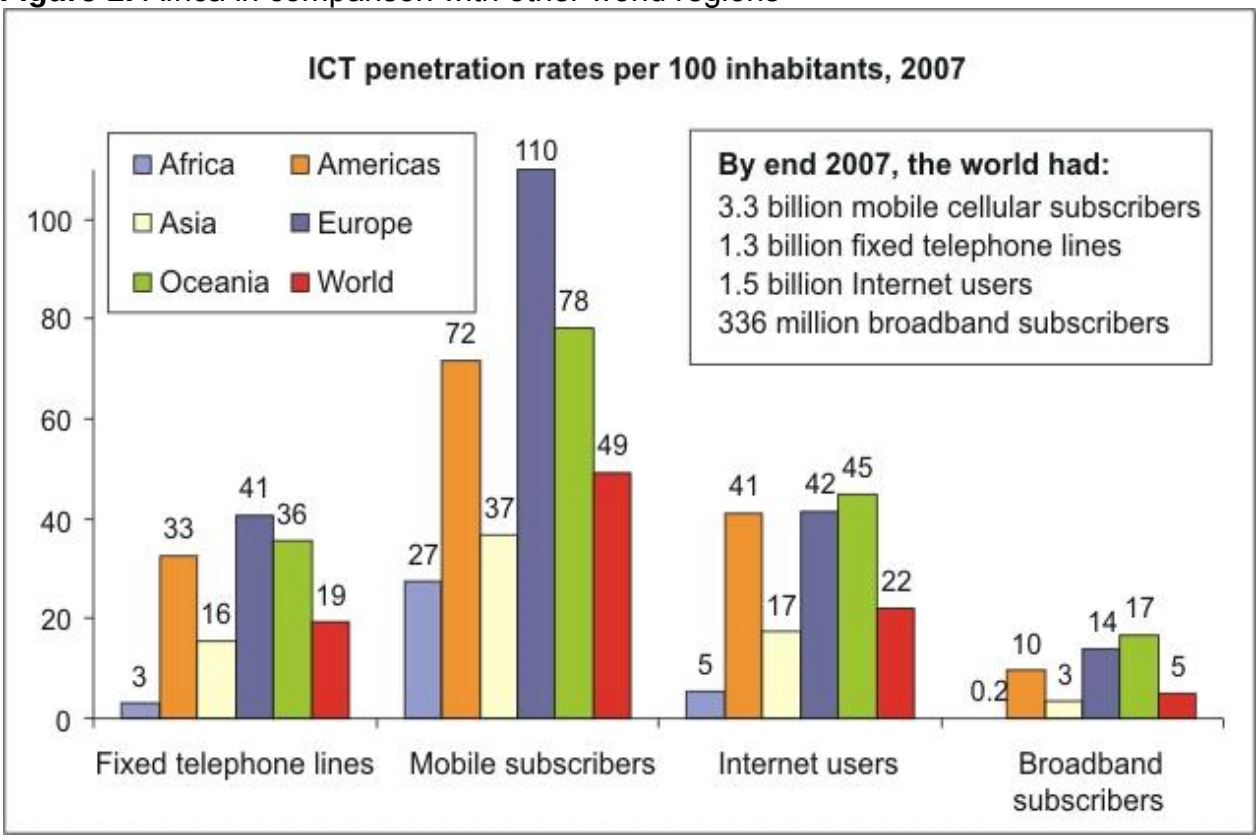
Solver thresholds		Standardised thresholds	
T_1	**-1.570**	T_1	**-2.216**
T_2	**-1.084**	T_2	**-1.599**
T_3	**-0.556**	T_3	**-0.926**
T_4	**-0.154**	T_4	**-0.414**
T_5	**0.243**	T_5	**0.091**
T_6	**0.686**	T_6	**0.654**

Standardised parameters

	Market Size	Political Stability	Macro-economic Stability	Government Policy	Regulatory Environment	Infrastructure and Logistics	Protectionism and Openness of Economy	Competition	Country Governance	Project Financing	Currency Issues	High Investment and Operating Costs	Labour Considerations	Cultural Considerations
μ	**1.45**	**0.09**	**-0.08**	**0.27**	**0.37**	**-0.10**	**-0.05**	**-0.08**	**0.08**	**0.06**	**-0.48**	**-0.21**	**-0.51**	**-0.81**
σ	**1.06**	**0.92**	**0.57**	**0.38**	**0.48**	**0.68**	**0.55**	**1.33**	**0.68**	**1.33**	**0.96**	**0.81**	**0.73**	**0.96**
t-value	6.28	3.55	3.28	0.47	0.57	0.21	-0.4	-0.29	-0.68	-0.7	-1.21	-2.32	-3.17	-3.89
p-value	0	0.0021	0.0039	0.6404	0.5724	0.8387	0.6919	0.7786	0.5055	0.4935	0.242	0.0316	0.005	0.001
Index	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**

Chi-test p-value	**1.0000**

Figure 1: Africa in comparison with other world regions



Source: ITU World Telecommunication/ICT Indicators Database

Figure 2: Preferred entry channels in rank order

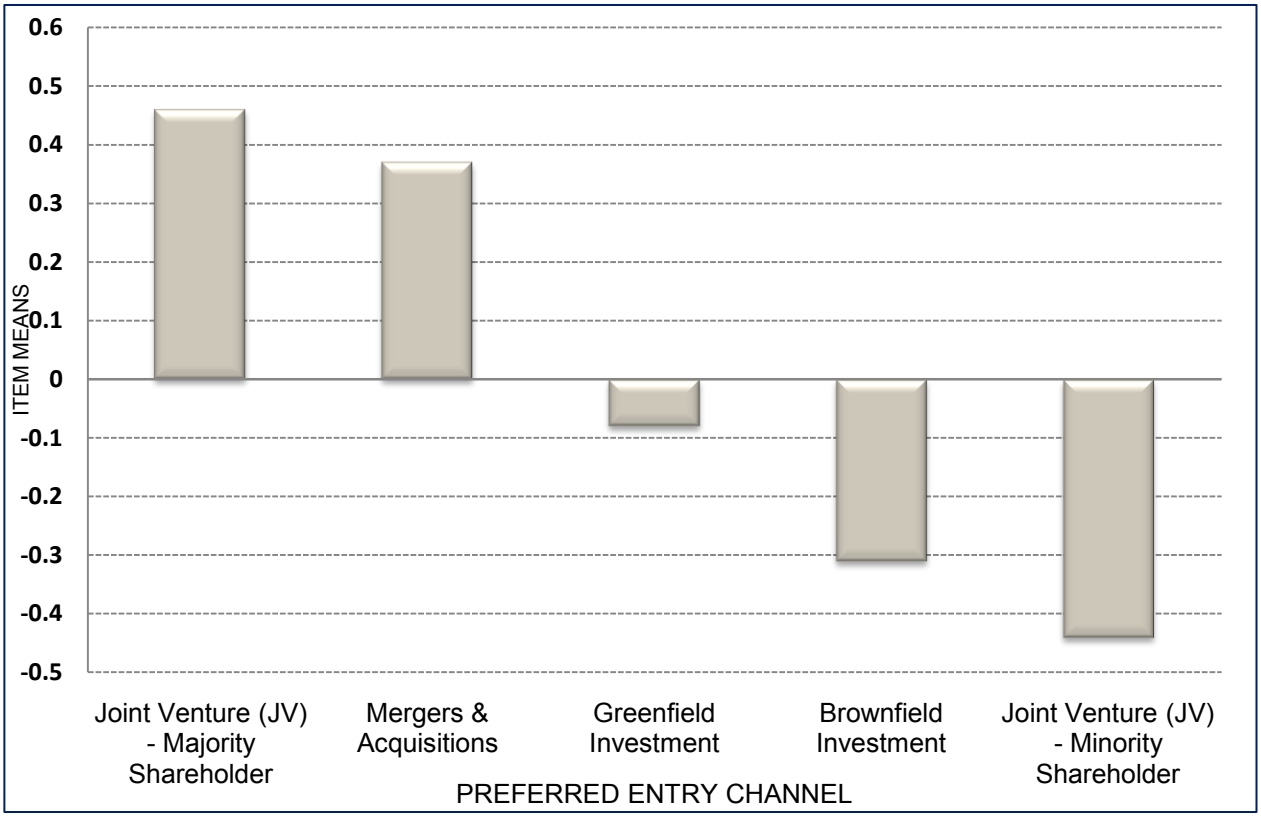
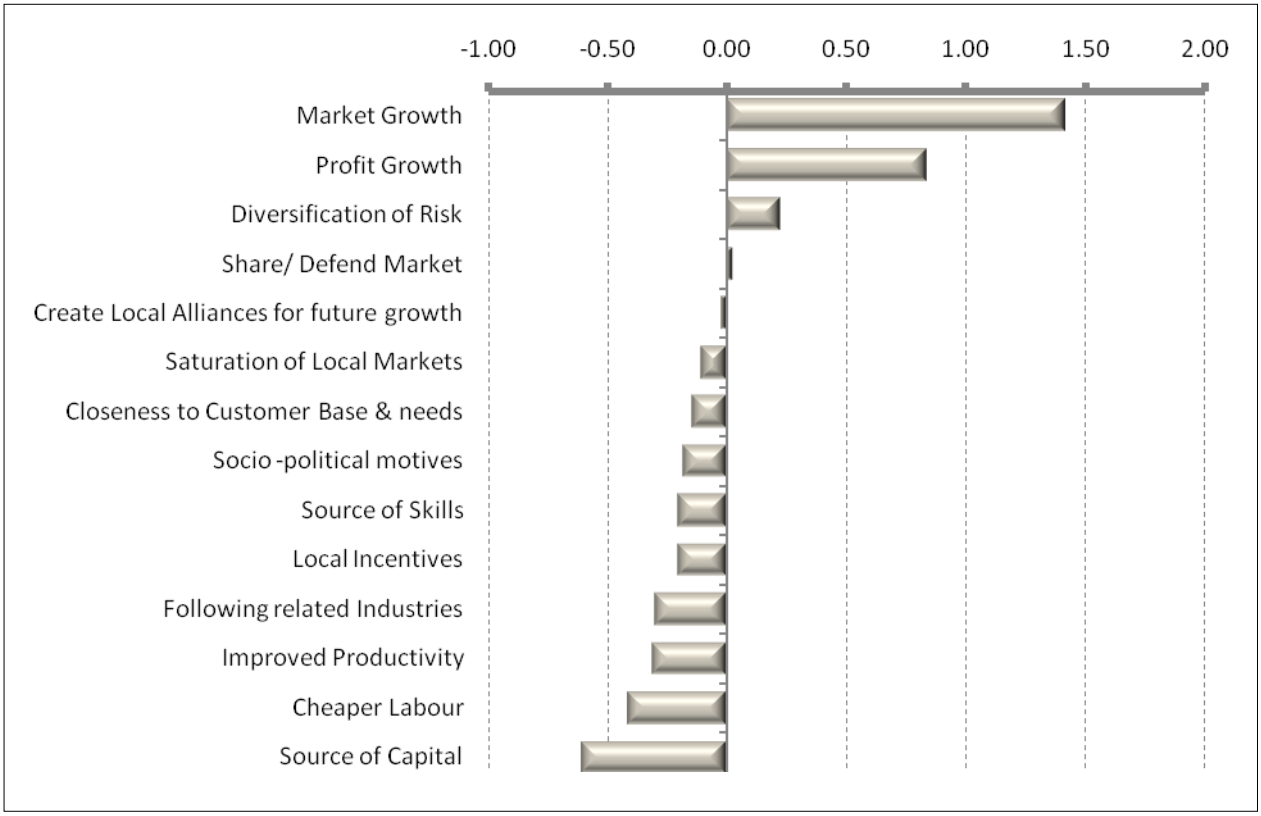


Figure 3: **Motives for entering a SSA country**



APPENDIX A: List of Respondents and the telecommunications market segments in which their companies operate

No.	Company	Position of the respondent in the company	Fixed line	Mobile	Internet, broadband, international and local backbone	TV and media
1	Africa on-Line	Chief Executive Officer			√	
2	Altech	Group Executive			√	
3	Blue Label Telecoms	Chief Investor and Media Relations Officer			√	
4	Business Connection (BCX)	Group Executive			√	
5	CIV-Darkfibre Africa (DFA)	Business Development Executive			√ (Local back-bone ONLY)	
6	CMC Networks	Managing Director			√	
7	e-TV	New Business Development Analyst				√
8	Gateway International	Chief Executive Officer			√	
9	IBM	Senior Sales Executive			√	
10	iBurst	Chief Executive Officer	√	√	√	
11	Internet Solutions (IS)	Chief Sales Officer			√	
12	iWay Africa	General Manager: Marketing			√	

No.	Company	Position of the respondent in the company	Fixed line	Mobile	Internet, broadband, international and local backbone	TV and media
13	MTN Business	Chief Executive Officer: Network Solutions			√	
14	MTN Group International	Managing Director: MTN SA	√	√	√	
15	Multi-Choice	President				√
16	Plessey	Managing Director: International			√	
17	Posix Systems	Chief Executive Officer			√	
18	Telkom Business	Chief Operating Officer			√	
19	Telkom Group International	Chief Executive Officer: Multilinks Nigeria	√	√	√	
20	Vodacom Business	Executive Director			√	
21	Vodacom Group International	Chief Officer: International Business	√	√	√	