TELECOMMUNICATIONS IN SOUTH AFRICA: GOVERNANCE OF WHO IS ACTUALLY REGULATING?

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Abstract

Although the Republic of South Africa telecommunications market is a maturing one with a large customer base to serve, it has been repeatedly been observed over the past few years that many good intentions were formulated in the regulatory sphere with sometimes poor outcomes and unclear governance. A number of surprising observations have been made on the outcomes, the delays or other process related events linked to regulatory measures. The paper thus researches first, from a governance point of view, who is actually regulating the telecommunications industry; it identifies next opportunities and bottlenecks whereby a change might happen to reach the expected outcomes. A political economy methodology is taken, backed up by extensive field work over 2010 and 2011, leading to a web of conjectures providing answers to the first question, based on an extensive analysis of key stakeholders goals, positions and interactions. Finally, a number of measures are proposed to improve the governance, regulatory impact and efficiency, and evolve the South African telecommunications eco-system.

Key Words: South Africa, Telecommunications Operators, Governance, Regulator and Regulatory Processes, Public Policy, Corporate Strategies, Consumer Protection and Empowerment, Economic Development

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1. Background And Introduction

The Telecommunications sector in Africa was in 2010 ranked second in terms of net profit margins, at 6,80 % (right after petroleum's 8,62 % and long ahead of mining's 2,93 %)(Africa Report (2011a)). It is no surprise therefore that the sector receives special attention in the continent's most industrialized country, the Republic of South Africa, coupled to its history over the past many years. One would have expected that the democratic policies in place since the 1980's (but formally since 1994) would fuel that sector and any access to it across the population, as a lever for economic development and governance. Analyzing the sector is even more relevant as some South African operators on this basis have turned into multinationals, and expanded into many parts of Africa and even beyond.

The extensive academic literature on telecommunications in South Africa (Black & Baird, 1997), (Noam, 1999), (Afullo, 2000), (Ayogu & Hodge, 2001), (Horwitz, 2001), (van de Wal & Pampallis, 2002), (Melody, 2002), (Cohen, 2003), (Makhaya, 2003), (Barendse, 2004), (Hodge, 2005), (Thlabela, Roodt, Paterson & Weir Smith, 2006), (Tobin & Bidoli, 2006) has long focused on the experiments of bringing telephony to the population, especially the poorer segments, and on how South Africa could reshape best the corresponding governance,legal and institutional framework assuming benefits would flow on a similar basis as in more developed countries. Motivation for this literature was often rooted in good intentions, and on the disciplines of technology diffusion, in "third world" economic development, and/or political economy; poor results are sometimes mentioned.

A combination of legislative and regulatory change, together with industry focus, is said to have led to a new telecommunications paradigm in South Africa. But, as already pointed out in (Gillwald, 2005), (Esselaar, Gilwald & Stark, 2006), (Horwitz, 2007), there were many good intentions and poor governance outcomes, exemplified by the following observations over the past few years:

Observation 1: Large businesses have been first in line to experience that they got prioritized in terms of telecommunications services offers; but what about consumers and SME? Mostly fixed network incumbent Telkom still rules the roost with its grip on the local loop, while only large corporates may bypass Telkom in large business districts.

Observation 2: Internet Service Providers' association (ISPA) has often pointed out the" long history of erratic regulation, unclear policy direction and a distinct lack of clear leadership by government "(ITWeb, 2011a).

Observation 3: Key industry people have pointed out that "Government has persistently failed to recognize the link between sorting out the regulator (ICASA) and the economic benefits that can flow from a better regulated telecoms environment" (ITWeb, 2011b).

Observation 4: Whereas the major new sea-cables serving Southern Africa since 2009 have increased tremendously the international traffic capacity and performance while lowering that cost, almost no benefits have been passed onto quality of service, access, connection speeds and domestic tariffs for consumers and SME's.

Observation 5: By regulator postponing some actions, and industry playing delaying tactics, major governance and industrial issues have remained in limbo for quite some time, to the point that national South African competiveness and productivity are affected; an example is regulator ICASA's decision to delay 2,6 and 3,5 GHz spectrum auctions, which were withdrawn in June 2010; a new radio frequency plan was however issued 30/7/2010, but with little impact on the auctions.

Observation 6: There is lack of stability in the institutional governance framework. Although the Minister of Communications has been changed since, in June 2010 the Cabinet approved an ICASA Amendment bill giving the Minister of Communications significant power over the regulator, effectively making ICASA an extension of the Department of Communications (DOC) instead of an efficient independent body; the CEO role was proposed replaced by a COO position. In terms of the Public finance management Act, ICASA as a constitutional body used to report directly to Parliament through its CEO, while the 2010 Bill stipulated reporting through the Minister and DOC, and that policies and directives were to be issued by Minister (ITWeb, 2010c). The mere fact of such tendencies existing at all is worrisome.

This leads to the following research question: as the institutional framework and goals for regulation are apparently put in question, what is the governance of who is *actually* regulating the telecommunications industry in South Africa? The derived question is about which opportunities and bottlenecks exist, whereby a change might happen to strengthen the outcomes of telecommunications governance and regulation.

The paper is organized as follows: Section 2 addresses the methodology, Section 3 the posture of each class of main stakeholders and their interactions, Section 4 the structural factors under which the regulatory initiatives and processes happen, before answering the main research question in Section 5 and proposing ways forward in Section 6.

2. Methodology

The approach taken is a qualitative one, based on extensive field work in the country in 2010 and 2011, backed up by accumulated operational experience there since the 1990's.

A relevant methodology had already been developed which could analyze well regulatory instabilities and governance inconsistencies and their linkage to different conflicting diffusion mechanisms, with India as a case (Pau & Motiwalla, 2008). Otherwise, research on governance in telecommunications is very limited (Sivalingam, 2007), (Sutherland, 2011).

But it became soon clear that in South Africa that a more straightforward political science approach would be more relevant. The methodology adopted is therefore one of mapping out the real stakeholders and their strengths and weaknesses in view of an equilibrium meeting governance goals.

3. Stakeholder Analysis

This Section analyzes more specifically the roles of the Parliament, Ministry of Communications and Dept. of Communications, Banks, finance and investment funds, Telkom, other operators, Regulator (ICASA), and finally Citizens & SME's.

3.1. Parliament

Whereas in general Parlament is far from "IT & Communications savvy ", over the past 3-4 years three public issues have come to its attention on a repeated basis:

-Issue No 1: affordable and dependable Internet access, to be treated as a basic need, and helping cut the digital divide;

-Issue No 2: spectrum frequencies need to be assigned to enhance coverage; there is still unused relevant spectrum (in 2-4 GHz as well as 5-8 GHz bands); the national average coverage is unrealistic compared to the much better one in most towns;

-Issue No 3: South Africa has strong operators, but too weak an ICT manufacturing, software and professional services sector to bring about new types of exports by the whole economy; Dept. Trade and Industry is finalizing an Information and communication Sector charter, but there are fears that like earlier attempts this will fail in the presence of a deteriorating investment and foreign direct investment climate.

On Issue no 1, citizens have asked for cheaper bandwidth but also improved quality and faster speeds, revealing an untapped consumer demand. But the right of access to telecoms is not supported in law

or the Constitution by a process which is enforceable, and operators lobby Parlament against such rights. Government stopped to be a player in reducing digital divide in telecoms after the privatizations; this lack of will since then marginalizes the poor. There is also risk attached to the sometimes populist promises of the ruling party, driven by 25 % unemployment (about 50 % in the 18-24 year age bracket), leading maybe to growing public deficits affecting the country rating; about 15 Million unemployed citizens receive allowances for a long time, without often having contributed to the social budgets, to which contribute mostly only 6 M citizens and companies.

On issue no 2, this is badly understood by Parlament who is not well briefed in the intricacies of spectrum plans, and who only sees in spectrum auctions relief for the State budget (in deficit); it is being simultaneously lobbied by opposing threats of substantial infrastructure investments by operators if they had to offer even coverage. Therefore, there is no, or slow spectrum reform policy, except what benefits higher margin users.

On issue no 3, there is little political will to disseminate widely eGovernment services as enablers of products and other services. Higher priority is given to other sectors rather than building a talent pool of ICT users. There is local content, although packaging and mediators lack. Broadcast is winning over computing and telecommunications equipment design and manufacturing, in terms of industrial measures, such as support for the domestic production of set-top boxes and DTV converters. This is because Parlament wants to be an active stakeholder for obvious reasons in South African Broadcasting Corp. (Board approved by President and Chair by Parliament); there is even a Moratorium on community TV stations. There is a general lack of R&D and innovation, due in part to insufficient funding, but also to the image amongst Parlament and financial decision makers that R&D is not profitable.

A new Consumer Protection act (Oct 2010, but entered into force only 31/3/2011) is very weak on services, with the National consumer commission and Consumer Tribunal operating by preference on smaller issues and product liability.

The Competition authority is currently not having any oversight over the telecoms sector as a result of the existence of a regulator (ICASA), and does not step in either for that reason. Prior to the formation of ICASA, it did step in though with a fine on the incumbent.

As a result of the lack of decisiveness normally expected by the trio of the Consumer commission, of the Competition authority, and of the regulator (ICASA), when they should work together , price pressure on operators is absent or subdued, and oligopolistic behaviors do not get investigated easily.

Therefore, and only rarely, the regular courts are called to help, with then significant progress happening. In 2008 technology group Altech took the Dept. of Communications to court, resulting in the ruling that any licensed ISP in South Africa is allowed to build and run its own network. Work on improving broadband began in earnest only once companies began working to create networks that allowed them to function without, and compete against, the incumbent Telkom. In parallel, mostly driven by foreign investors, there was a frenzy of activity incl. sea-cable projects like the West African Cable system (WACS) and the EASSy Easter Africa Submarine cable system , in addition to SEACOM (see Figure 1). International bandwidth pricing has gone down ever since Seacom and ESSAy, but not to the benefit of South African users! It is currently cheaper for local ISP's to buy 1 GB of international bandwidth from outside South Africa than on its domestic networks.

3.2. Ministry of Communications and Dept. of Communications

Due to the fragmentation of ministerial posts, and thus of ministries, there is a lack of a holistic vision and framework for telecoms and media , the later still seen mostly as a "minds shaping tool"; there is slow development of Digital Television (DVB-T2 standard) , Mobile TV and DTH such as MultiChoice South Africa.

The Dept. of Communications is not an active shareholder in Telkom, the incumbent, or aiming at fulfilling a new vision for it, or in view of disengagement. It is not clear where the Dept. of Communications stands on the local loop unbundling, today almost monopolized by Telkom.

Process-wise, legislation drafted by the Dept. of Communications to enable Parliament's decisions, is often unclear, rooted in past technologies and capabilities (such as wireline), and lacks not vision but adequateness and realism in the South African context.

There is no independent in-depth statistics resource to monitor the telecoms sector.

Biter fights happen between the Communications Minister, Dept. of Communications and Regulator (ICASA). In 2010, DOC Director General got fired by the Communications Minister, a decision "explained" by the "lack of clarity on DOC statutory responsibilities and instability, and /or by Ministerial involvement in DOC procurement process".

3.3 Banks, finance and investment funds

South Africa has many very large and profitable banks, finance houses, and pension funds which in effect are, alongside Government and public investment funds, the largest owners of most telecommunications companies, which they consider as growth oriented high yield investments, and also as customers for high margin loans domestically and

abroad. There are exceptions such as majority foreign owned Vodacom, Cell-C and Neotel (owned by Tata). See Table 1 for details.

The influence of banks on mobile operators is so strong e.g. in the field of mobile banking, that South African operators are far behind (even compared to Kenyan operators) (Economist, 2012), as the banks actually fear that operators' more modern infrastructure would turn them obsolete in capturing consumer deposits and payments. Some joint ventures exist and will appear (e.g. Vodacom and Nedbank collaboration), but they are structured in such a way to have appeal not to the African masses but to high net worth individuals. Nevertheless, Reserve Bank's clearance of e-Currency got supported by money held in a trust account until it is spent, and is applicable to mobile payments.

The analysis of Board positions held confirm the above, with joint positions held for example at MTN / Standard Bank, Investec/ VOX Telecom , Investec/ Blue Label Telecoms, Helios / Helios Towers Africa, Safika Holdings / several , and many more.

Table 1. 2010 Top South African telecom companies (legal entities)

Rank in Africa Top 500 companies	Operator	2010 Turnover in BUSD	2010 Profit in MUSD	Market cap end 2010 (BUSD)	
5	MTN Group	15,09	2313	32,6	Owned 17 % by Government employee pension fund, 31 % by nominees of Nedcor Bank, 31 % by nominees of Standard Bank, 14 % by nominees of First National; 129 M subs. in June 2010 in 21 countries, with Nigeria the largest with 35 Msubs.; failed merger with Bharti
9	Vodacom Group	7,89	566	15,2	65% owned by Vodafone, 13,9 % by South African govt., 5,2 % by Public PIC; 7300 employees; operations in 5 African countries with 40 M subs.
12	Vodacom South Africa	6,80	N/A		100 % owned by Vodacom group; still relies largely on Telkom's transport networks; move towards costs savings
17	Telkom	5,16	508	2,46	Owned 39,8 % by Government , 10,9% by Public PIC and more than 6 local asset managers have 2% or more; 22800 employees; sold its share in Vodacom in 2008, and its Nigerian mobile operations with 27 Msubs later at a big loss; 715 k calling plan subs.; 647 k ADSL subs.; 511 k Internet subs.; fixed line penetration rate of 8,7 %; 1,86 M CDMA mobile subs; trials of fixed wireless
25	MTN South Africa	4,47	N/A	N/A	100% owned by MTN Group; about 4200 employees
N/A	CellC	1,41	193	N/A	60 % owned by Saudi Oger, 25 % by CellSaf (Ubambo Hldgs and other South African black empowerment groups); 8,2 M subs.; rolls out HSPA+ at 900 MHz as well as fiber
N/A	8ta	11,2 MUSD	(-152)	N/A	100 % owned by Telkom; launched in Oct 2010 by mother Telkom; 0,5 M subs. in June 2011; roaming via MTN
N/A	Bluetel (Blue label telecom)	2,36	52,5	0,572	Distributor of prepaid secure electronic tokens of value, mobile content and transactional services within emerging and developing economies. Its core business is the virtual distribution of secure electronic tokens of value (predominantly prepaid airtime at present) and transactional services; 12 % owned by Microsoft
N/A	Altech (Altron group)	1,27 (about 2/3 in communications services)	129	1,0	Pagers, GSM, fleet solutions, Converged services, Multi-media electronics, Set-top boxes, , and IT technology

Note that some are listed with holding company operations across Africa, and next with South African operations only; for further details see http://www.africantelecomsnews.com/resources/AfricaOpp_South_Africa.shtml; currency assumption ZAR/ USD: 7,2265

3.4. Telkom

Telkom is the large incumbent operator, with a background in fixed telephony, and a key asset is its ownership of most communications backbone (including stakes in land+ sub-sea cables and satellite links) up to and including the "last mile" local loop (see Table 1 and Figure 1). Telkom also invested early and profitably in some of its current largest domestic competitors, while losing out badly at most foreign operations. As Telkom is faced with the decay of narrowband telephony, and stagnation of ADSL subscribers due to high rates, it tries to get the most out of other operators from interconnection revenues, leasing transmission links and services. It also chose the wrong mobile technology, having thus to relaunch mobile services with a different technology under another brand and aiming at low ARPU prepaid clients. Telkom is still pushing dying technologies such as PBX rentals to SME's.

Telkom is obviously integral to the functioning of the South African economy and this is reflected in a large traditional public ownership: Government (39 %), Public Investment Corp (10,9 %), Telkom Treasury stock (2,0 %) besides a free float of 47,3 % mostly with asset managers and banks (only 2,5 % held by 82 000 retail shareholders).

The above historical, technical and financial characteristics make up for a very strong Telkom in any policy and regulatory matter. Several times did various parties try to sue Telkom in front of the Competition Commission, to see their cases ultimately dismissed except once before ICASA was created.

Significantly, the local loop dependence on Telkom is an Achilles' heel for consumers, and unbundling should have a massive impact (Unnamed, 2010a).ICASA has only started 22/6/2011 to address local loop unbundling with a "discussion paper".

3.5. Other operators

Most other public operators offer mostly wireless or Internet access (see Table 1). Whether fixed or mobile, broadband coverage is bad, good only in towns.

Almost all mobile subscribers are prepaid subscribers with sometimes several SIM cards, as interconnect and roaming fees are very high; mobile churn is also very high: 45 %, which by a statistical effect explain the high nominal mobile penetration rate above 100%. All mobile operators, and each of them in separate ways, have achieved high growth, high profitability (often EBITDA margins > 45 %) and sometimes international expansions, capitalizing on high tariffs. By and large, prices in real terms are as in 2001 despite competition.

Until recently, all Internet Service Providers were highly dependent on Telkom's backbone, and sometimes transit fees to sea-cable and other international links. South Africa is rather unique in that it consumes most information in English via content servers in US and Europe, so online content is mostly foreign. Fiber networks start to be deployed reducing local transit costs, mostly between Johannesburg and Cape Town (Neotel, FibreCo) in direct competition with Broadband Infraco and Telkom. Quality and speed are neglected, as ISP's seek between themselves lowest cost common denominators while failing to educate unsuspecting consumers as to additional side-effects inherent in low prices: slower speeds and diminished quality of experience. On the other hand, enterprises will want to choose Internet Service Providers for the long haul and the ISP's claim this does not happen due to unstable regulations.

Table 2. Mobile service providers per second prepaid tariffs in South Africa

Pre-paid rates	CellC Easy Chat	Vodacom 4U	MTN	8ta
Tariff rates/second during peak hours (07:00-20:00)				
Own Net	R 2,85	R 2,85	R 2,89	R 2,75
Other Net	R 2,85	R 2,99	R 2,89	R 2,75
Fixed	R 2,85	R 2,85	R 2,89	R 0,65
MMS	R 0,90	R 0,80		R 0,50
SMS	R 0,80	R 0,80	R 0,75	R 0,50
Off-Peak tariff rates (20:00-07:00)				
Own Net	R 1,30	R 1,12	R 1,19	R 1,12
Other Net	R 1,30	R 1,30	R 1,19	R 1,12
Fixed	R 1,30	R 1,12	R 1,19	R 0,65
MMS	R 0,90	R 0,80		R 0,50
SMS	R 0,34	R 0,80	R 0,35	R 0,50

(Cellc, 2011), (MTN, 2011), (Vodacom, 2011), (8ta, 2011); assumption ZAR/ USD: 7,2265

In general mobile tariffs are high (see Table 2). For SMEs and homes there are various mobile broadband options including 3G (Vodacom, MTN, CellC) along with capped ADSL from Telkom (nominal 10 Mbps, but much less effective speed); WiMax may exist locally in some remote areas. Theoretically some HSPDA+ connections exist (first was CellC at 21,6 Mbps) but effective bandwidth is at best close to 5 Mbps. Whereas tourism is in excess of 10 M visitors, 75 % from Africa, mobile voice roaming fees are very high. And mobile Internet roaming is extremely expensive even in case of travel in Africa.

Internet access prices are still ridiculously expensive for citizens and SME's (by OECD standards, as well as ratio of business to consumer tariffs), as operators brought down prices mostly for large corporates. Current ADSL speeds are 384 kbps, 512 kbps, 4 Mbps, 10 Mbps but the latter speed only in certain areas with upgraded Telkom DSLAMs and transmission. An uncapped 4Mbps ADSL line (if available) costs about 1000 ZAR once line rental and ISP costs are factored in (exchange rate ZAR/ USD: 7,2265). ISP MWeb launched uncapped ADSL connectivity in 2010, with some restrictions, and competition exists now in that segment (Vodacom, OpenWeb, @lantic, Gamco, Afrihost, Axxess, DigiChill, and WebAfrica); unfortunately they are all beholden to Telkom for actual lines; only MTN Business is reported to have doubled its own capacity in 2009 in metro areas (Unnamed, 2010b). MWeb's Business package (data only) offers 10 Mbps for 5000 ZARs/month (Feb 2011) (compared to consumer rate of 2000 R/month without QoS). Internet access price cuts are reported often to be at a cost to the consumer (Web Africa, 2010).

Tier two Telco's and VNO's could grow in the enterprise segment (e.g Neotel, Nashua Mobile, Du Pont Telecoms) but rules and complexities make it very difficult for companies to outsource all their traffic needs to such operators , preventing the companies to ride the savings achieved by the operators e. g. from regulated interconnect rates.

Stories abound on sometimes appalling quality of service; besides coverage and speed problems, installation can take very long, billing mistakes are frequent. Consumers and SME's are afraid of bringing operators and esp. Telkom to courts for fear of denial of access or delays in connections being set up.

Operators' incl. Telkom are often unprepared for partnerships. While telecom companies are indeed focused on providing a more personalized and compelling customer experience, the processes and systems they have in place leave them sometimes unable to achieve that goal , as they cannot provide the full range of billing options to capitalize on partnerships with content owners.

Operators' lobbying is very selfish, and they rarely act jointly. Even more rare are joint actions by large operators and smaller ISP's. But both apply with ease delaying tactics when regulator makes a move.

Social entrepreneurship is strong at the three largest mobile operators and Telkom; some have established not-for-profit foundations which receive 2,5 % of the profits. There is no reason to believe this will change even when gross profits fall. They sometimes embark on social innovation, e.g. the Vodacom Webbox, an Internet device that connects to users TV's, coming with a SIM card and a modem and developed for emerging markets.

3.6 Regulator (ICASA)

The Independent Communications Authority of South Africa (ICASA) was established as part of the new Constitution of South Africa, and should have in principle the independence, the means, the skills and efficient processes to carry out its mission. It may not always be so for political and/or structural reasons.

As reported in Section 1, the independence is being put to trial both by government interference and attempted control, and by private sector (often operators) luring staff away at high rates after 2-3 years only. The Black economic empowerment (BEE) scheme, as applied to several categories of staff, is favorable to this community's recruitment to ICASA, but also to its faster exit (Balancing Act Africa, 2010).

Regarding means, key posts, incl. counselors, stay unfilled for long times. There is information asymmetry vs. operators: ICASA engineering division has less than 5 engineers/technicians, and few economists, and relies too much on external consultants. Even, a very strange consultation has started about how ICASA should establish its own revenues.

Regarding skills, the salaries do not attract the best, and anyway South Africa has a huge deficit in ICT training and literacy (see Section 4) compounding the difficulty. Training for regulators exists at West Africa Telecommunications Regulatory Assembly (WATRA), Communications regulators association of Southern Africa (CRASA), Southern Africa Telecommunications association (SATA), Commonwealth Telecommunications organization (CRASA), World Bank, & ITU Meeting of African Regulators. Often ICASA staff spends much time visiting such bodies or other foreign regulators to learn best practices; this does not always support independent thinking as there is a tendency to mimic what has been done elsewhere with a delay. What are needed are regulatory skills not headcount at regulator.

Regarding efficient processes, South African stakeholders often claim, for their own reasons that regulatory efficiency is not in focus (Unnamed, 2010c). Telecoms industry is often taking advantage, with delaying tactics, of regulators inconsistency.

ICASA gets some things done, but, as expected receives criticism with as specific examples:

- Slow and fuzzy regulation with resulting uncertainties, e.g around unbundling effect of the local loop (Nov 2010 determination), infrastructure sharing, etc.
- Lack of tangible competent efforts to enforce correct usage of spectrum and broadband
- Value and use of the universal services fund
- Too high profit margins of operators on investments (ROI)
- Dilution of ad revenues due to new TV channels

Praise is received on:

- International transit costs are going down gradually with WACS , Seacom
- Allowing CellC in Nov. 2010 to sell 1400 base stations to American Tower Corp (USA) for 430 MUSD, and other similar moves

3.7. Citizens, SME's

Citizen's and SME's operate within a macroeconomic context in which they take their decisions regarding needs for, and affordability of, telecommunications services, and formulate their decisions. There are serious questions in this context whether demand is consumer led (or only led by small groups), and whether consumer protection can be applied to such an inequality exposed population.

The 2010 GDP/inhabitant on a Purchasing power parity basis was approx. 10700 USD, which ranks its 102nd worldwide (www.indexmundi.com/ south_africa), and unadjusted real GDP at market prices increased 3,6 % year-on-year as of Q1-2011 (www.statssa.gov.za). The official report on Poverty in South Africa by the Treasury (Poverty and inequality Institute, 2007) does not include basic telecommunications inside basic needs. The Gini coefficient is a widely used summary measure of income inequality which ranges from 0 (perfect equality in the distribution of income) to 1 (perfect inequality in the distribution of income); for 2005 its value for South Africa was 0,72 (Armstrong, Lekezwa & Siebrits, 2008), meaning inequality is very dominant. This analysis also indicates that 47,1% of South Africa's population consumed less than the "lower-bound" poverty line proposed by Statistics South Africa in 2007 – which means 47,1% of the population did not have ZAR 322, or about 44,5 USD per month (in 2000 prices) for essential food and non-food items. No surprise then that telecommunications customers mostly belong to, and are dominated by the more affluent minority, and that the use by the majority is volatile, reduced and strongly subject to pricing. Vodacom's 2009 mobile ARPU average in South Africa was ZAR 135 / month, and MTN's in 2010 was ZAR 154 in average (2009 prepaid: ZAR 92 and post-paid: ZAR 397). At the same time, ARPU for low cost Telkom subsidiary 8.ta rose from ZAR22 to ZAR46 in May 2011, clearly showing different customer segmentation.

These data also largely explain why consumer associations are sofar so weak (e.g. Internet users or communities), or only represent a smaller subset of the users, with little influence on regulator, so that only Parlament is left to set the speed at which digital tariffs and service characteristics for the wider population are set, and the digital divide is reduced (Fuchs & Horak, 2008).

The number of SMEs is estimated to be between 1 and 3 million in South Africa. Excluding microbusinesses, this number turns to a range of 250 000 to 650 000 enterprises, which represents a contribution to GDP of some 50 per cent; SME's contribution to employment is about 60 %, according to the Ntsika Enterprise Promotion agency; large enterprises only number 6000 in number, or 0,7 % of the total (National Treasury, 2007).Furthermore, of the 6000 large enterprises, agriculture and manufacturing together represented about half, and finance & business services about 10 %. No surprise then that SME's cannot voice their needs better than citizens to the regulator, and that operators concentrate their deployment on those 6000 enterprises, whose market they share in close oligopoly. As an example, SME/ Medium sized industry groupings like the Wireless application service provider's association WASPA, have mostly honorary duties or serve as an SME marketplace.

4. Structural Aspects

The regulatory processes take place subject to structural constraints and opportunities, linked to human capital, macroeconomics and governance. This affects the quality and efficiency of the regulatory work.

Regarding necessary human capital, there are 35 000 unfilled posts at national government level, and 88 000 at provincial/municipal level (Africa Report, 2011b).There is under NGP ("New growth plan") a focus on sector education , with hopes for 30 000 more engineers by 2014.The "Knowledge economy" which includes telecommunications is hoped to produce 100 000 jobs over 10 years , but one key problem is that ITC is not rated high in esteem and prospects compared to banking, tourism, sales; this is partly due to the very low ITC competence of opinion leaders, top managements, company Boards, and even academic leaders. As telecommunications operators are affluent, upcoming managers do not see the need to strengthen their competence in the field, but rather in finance and general management which offer faster career tracks (Edwards, 2011). There is very low intake of students and graduates into ITC; total 2008 enrollment in ICT at Universities in South Africa was 14 742 students or 3% (out of 482 139); of this 32 % were females and 67 % males; the total 2008 ICT graduation rate was only 16 % ,meaning it

was hard to get a diploma in ICT. The lack of domestic high tech- high visibility companies does not provide motivations for some sectors of the national economy to turn digital (agriculture, most of manufacturing, public services). Large bureaucracy is affecting also public works which telecommunications operators sometimes depend upon for deployment and installation.

Regarding macroeconomics, to the risks identified by Moody's, belong the high rated currency (current exchange rate ZAR/ USD: 7,2265), frequent strikes, missing infrastructure, lack of electrical capacity (doubling of capacity planned by Eskom for 2026), and sometimes too high salary levels as well as salary raises, with resulting inflation; in 2011 Telkom employee unions have requested 12 % pay rise. This reduces the global competiveness and FDI (US Dept. of State, 2011); nevertheless some foreign investors value the high interest rates they can earn on financial investments. The Black economic empowerment (BEE) scheme (with several ladders) gives "reward points" to companies with black ownership; multinationals use it, focusing on development and mentoring.

Regarding governance and associated aspects (US Dept. of State, 2011), the private operators have not put in place enough practices around shareholder values, so that key issues sometimes are not even voiced by others than Board members. Regarding IT governance, the heavily marketed "King 3" framework is only a code of practice generating consulting projects but not a truly legally executable and enforceable tool, and it has no regulatory linkages.

5. Governance Of Who Is Actually Regulating South African Telecommunications?

The above analysis maps out the positions of strength and the interdependence of some of the key stakeholders, and the quasi-absence from regulatory processes by citizens and SME's, while corporate issues dominate driven by large firms (including operators). Four linked conjectures can be elaborated based on this analysis:

Conjecture 1: Banks, financial institutions and foreign investors (when applicable), as well as Government as a shareholder, due to their weight and requirements for sustained investment profits, drive in effect the speed at which regulatory reforms are put in motion so that their Net ROI does not get affected;

Conjecture 2: Government via its influence in and on Telkom, and via its lack of vision in the ICT area, selects mostly those regulatory reforms which delay Telkom's technology migrations and business repositioning, which would be costly in public investments and loss of employment;

Conjecture 3: Private operators in turn delay whatever regulatory reforms passing the above two processes, to keep on reaping the high margins in the structurally limited domestic South African market, to reinvest them elsewhere in high growth African markets, to sustain the financial goals driven by Conjecture 1;

Conjecture 4: The digital divide and affordable communications are in effect not seen as a top priority by Parlament, thus the quality, intensity and speed of the regulatory processes and the corresponding structural changes are not a priority, which affects Conjecture 2.

A much simplified answer to the question raised in the title of this paper, is that *no one* is currently regulating the South African telecommunications sector, and that governance is limited. But the set of conjectures above, rooted in the above facts, observations, and analysis, provide collectively a more correct answer.

6. Some Ways Forward

In view of the web of conjectures possibly explaining the initiatives and conduct of telecommunications regulatory changes, a change in this web can only be found in external influencing factors or strengthened visions. Obviously their uptake depends on policy makers. Some relevant possibilities are the following:

1. Enact in Parlament a constitutional right to communicate , so that all geographical areas and/or segments of the population get an enforceable process to get telecommunications access by whichever technology is the most appropriate in each specific case; this step would also put Parlament back into becoming a driver.

2. Privatize all of Telekom, in whole or in parts, and sell off Government stakes in all operators in which it has direct shareholdings (e.g. minority position in Vodacom Group), while maintaining sovereign interests; this would bring capital for the technology and business evolutions especially of Telkom, higher public attention, and remove the "judge-and-party" effect of Conjecture 2; it would also allow to open up for local loop unbundling and competition; high employee counts at Telkom (see Table 1) may be a social problem.

3. Encourage, and reinvest spectrum auction revenues, in the creation of local upstarts or product developments serving better coverage at low cost (community picocells, advanced DSLAM's, Internet access via TV, specific applications , local content, etc.); help develop role models in young enterprises having already by themselves an international footprint (e.g.: Call fraud fighting, traffic monitoring, by-pass control company Global Voice Group SA www.globalvoicegroup.com; Dimension Data, IT service provider acquired by NTT of Japan; US listed but South Africa owned S1 Corp with its Postillon card-payment engine; and others).

4. Re-allocate the universal service revenues towards "mobile social tariffs" for the needy for their inclusion in the workforce and society; this would cost operators nothing extra, and generate new eGovernement applications (esp. job center applications) to support these populations.

5. Initiate and contribute via ICASA to a Southern and Eastern Africa regulatory body with executive powers in cross-borders issues (international interconnects, spectrum harmonization, etc..) , in order to support wider regional economic exchanges and raise the regulator's role beyond purely South African issues; this would also allow to catch up with strong role models like Kenya (Communications Commission of Kenya CCK) , Uganda etc. where ISP's are freed from incumbents, mobile users are sitting pretty with their better customer service, easy number portability, 50 % cut in interconnection rates, and a local applications industry (Kenya ranked 5 th worldwide by BuzzCity Mobile in mobile advertising; Ushahidi safety risk mapping) (Africa Report,2011c)

6. Enhance the pool of local ICT specialists, not by relying on slow-to-change universities and business schools, or foreign consultants, but by more aggressive measures; an idea to follow is the one by the ONG African leadership program, which sends candidates abroad, provided they commit to return to South Africa, alike Singapore's "bonding" scheme for promising civil servants.

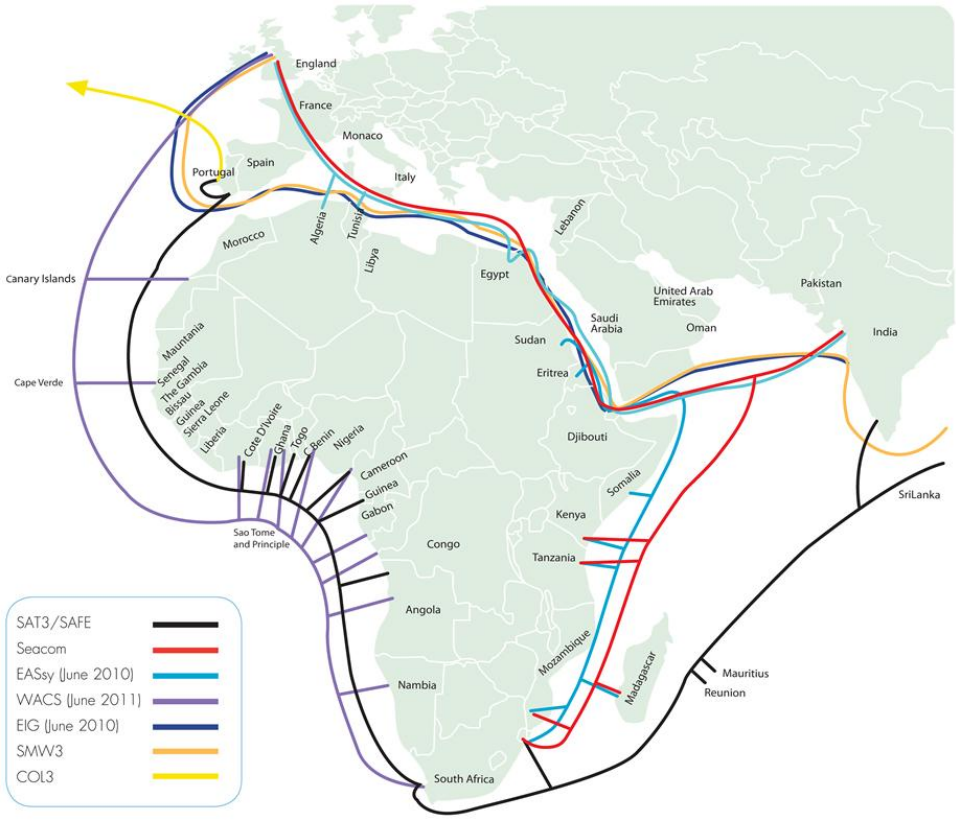
7. Address Conjecture 1 by encouraging banks and operators to upgrade significantly mobile banking uptake amongst the less favored citizens; operators should get a limited banking license, and banks a limited communications license (hot spots around ATM's) to change the business model around bank branches; in Kenya mobile banking is ahead of branch based banking: an M-Pesa mobile money account is what keeps customers with Safaricom and Equity Bank, or M-Kesho keeps other customers with Orange and with Equity Bank (again).

8. Lay out a plan whereby private operators can support and enhance the economic expansion of South African enterprises abroad , by relying on the enhanced capabilities they should be able to offer vs. local and other operators (Daniel & Naidoo, 2003), (Aykut & Goldstein, 2007), (Grobbelaar, 2004), (Esselaar, 2009).

Other sectors may benefit as well from these changes and their own. As the electrical grid and renewable energy production improves, should be strengthened the use the sea-cables for data center operations and outsourced support center operations (currently 15 data centers in South Africa), targeting the low end of that market (e.g. Teraco in Cape Town and Durban) (Africa Report, 2011d)

Such measures would help evolve a new ecosystem at operators', regulator and in the economy, while operationalizing digital divide and unemployment issues which are bound to last.

Figure 1. Telkom present and future sea cable network; Source: Telkom Annual report



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