

TOWARDS REGIONAL ECONOMIC INTEGRATION IN TELECOMMUNICATIONS: THE CASE OF SADC

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INTRODUCTION

In recent years, one remarkable trend in the dynamics of the global economy has been the increasing shift towards regional economic integration. Countries in different geographic areas continue to align themselves economically with contiguous states to such an extent that regional trading blocs have become pervasive across the globe (WTO, 2010). The central objective in all these moves is to reduce, and ultimately, remove tariff and non-tariff barriers to the free flow of goods, services and factors of production between member states. Hence, regional economic integration is now accepted as an effective vehicle for raising economic development and

providing economic security within regions.

Gang and Tommaso Padoa-Schioppa (2004) observe that regional economic integration follows different patterns across the world, in effect, reflecting the diversity of economies and their histories. This is logical, given that economic integration is dynamic. Invariably, objectives and functions differ across countries and regions of the world. Linn (2009) affirms that regional integration blocs serve different functions. They may focus on such areas as security, political and trade ties, cooperation in infrastructure (water, sanitation, energy, road, rail, air or water transportation, telecommunications), socio-economic areas or they can be comprehensive, covering these areas or more.

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Inter-American Telecommunications Commission (CITEL) in the Americas to the Comité Européen des Postes et Télécommunications (CEPT) in Europe, regional cooperation in telecommunications is increasingly becoming a common global phenomenon across the geographic regions of the world. Regional cooperation can help poor countries to develop the necessary legal and regulatory frameworks to bridge the digital divide, address the fundamental issues of infrastructure modernisation and expansion, attract investment and improve internet and broadband connectivity (UN ESCAP, 2004).

SADC faces numerous socio-economic and political challenges across its key sectors of trade and industry; food, agriculture and natural resources; energy; human resources development; mining; tourism; culture and information; finance and investment; water; employment and labour and transport, **communications and meteorology**. Predictably, some of these challenges cannot be tackled effectively by individual member states. This explains why SADC is pursuing a regional economic integration agenda, in order to address these problems through the economic development of member states (SADC, 2010).

The telecommunications industry in SADC represents, perhaps, the fastest growing industrial sector in the region. From banking, education to entertainment, telecommunications has transformed the way people live by affecting almost every facet of their lives through reducing time, distance and the information gap. Cell phones, BlackBerrys, handsets, e-mail, online conferencing and international teleconferencing over the Internet have become essential tools

of business (Laudon and Laudon, 2007). The development of a modern, reliable regional telecommunications infrastructure is a crucial prerequisite for successful regional integration.

The purpose of this paper is three-fold: (1) to examine the socio-economic factors in SADC that may create opportunities or challenges in the successful implementation of regional cooperation in telecommunications; (2) to review the various regional economic integration programmes and initiatives carried out in the industry; and (3) to obtain some initial insights on progress made in the sector to date. This study will be of interest to researchers and graduate-level students of regional economic integration, political economy of developing countries, as well as telecommunications practitioners in Africa.

This paper is organised into five sections. The first section provides an introduction to the study. The second section examines the socio-economic factors in SADC that may create opportunities or challenges in the implementation of regional integration in telecommunications. The third section reviews major telecommunications integration initiatives and programmes completed or under implementation within SADC. The fourth section uses various telecommunications data to assess the level of progress made in the sector, attributing this progress as due in part to SADC integration efforts. The fifth section concludes the paper.

1. OVERVIEW OF THE SOCIO-ECONOMIC ENVIRONMENT IN SADC

The Southern African Development Coordinating Committee (SADCC)

was established in 1980 but changed its name to the Southern Africa Development Committee (SADC) in 1992. SADC has 15 member states, namely Angola, Botswana, the Democratic Republic of Congo, Lesotho, Madagascar (currently suspended), Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe. One of the most compelling arguments advanced in favour of regional integration in SADC has focused on the small size and fragmentation of member states.

1.1. Level of Economic Development

The establishment of SADC has seen the emergence of a regional economic bloc with a population of 262 million people and a combined Gross Domestic Product (GDP) of US\$472 billion at the end of 2008 (World Bank, 2010). These figures need to be taken into their proper context. Comparatively, SADC is a very small economy, with a combined GDP equal to that of Belgium or a third of Spain's GDP. Boasting abundant natural resources, the region offers significant potential for sub-regional and international trade and investment in telecommunications.

As Table 1.1 illustrates, SADC member states exhibit significant differences in the levels of economic development. However, on average the region is predominantly underdeveloped. For example, Lesotho and Swaziland are among the smallest economies with GDPs of US\$1.62 billion and US\$2.84 billion respectively, while Angola and South Africa are the largest with GDPs of US\$84.94 billion and US\$276.45 billion respectively. Measured by GDP

per capita, the poorest people in SADC live in the DRC (US\$182) and Malawi (US\$288) while the richest people live in the Seychelles (US\$9,580) and Mauritius (US\$7,345).

The disparities in the level of economic development of SADC member states presents a challenge to the organisation. Since telecommunications is capital intensive, significant financial resources are required to support regional investments and cooperation initiatives in the industry. SADC negotiators face huge challenges in reaching an agreement that could be accepted and effectively implemented by all, since member states are always mindful of their economic situation and the financial implications of implementation of such agreements and resolutions. As a result, at times members drag their feet or postpone indefinitely the implementation of such resolutions, with negative consequences for the successful cooperation in the region.

1.2 Level of Human Development

According to the UNDP's 2007/2008 Human Development Index (HDI) rankings, only two countries in SADC – the Seychelles and Mauritius – are classified as 'High' on Human Development, with an index value of 0.800-1.00 (see table 1.2). Seven countries – South Africa, Botswana, Namibia, Lesotho, Zimbabwe, Swaziland and Madagascar are categorised as 'Medium' – with an index value of 0.500-0.799. The remaining six countries – Tanzania, Angola, Malawi, Zambia, DRC and Mozambique – fall in the 'Low Human Development' category, with an index value below 0.500. The HDI is a summary measure of hu-

Table 1.1: Basic Indicators for SADC member states

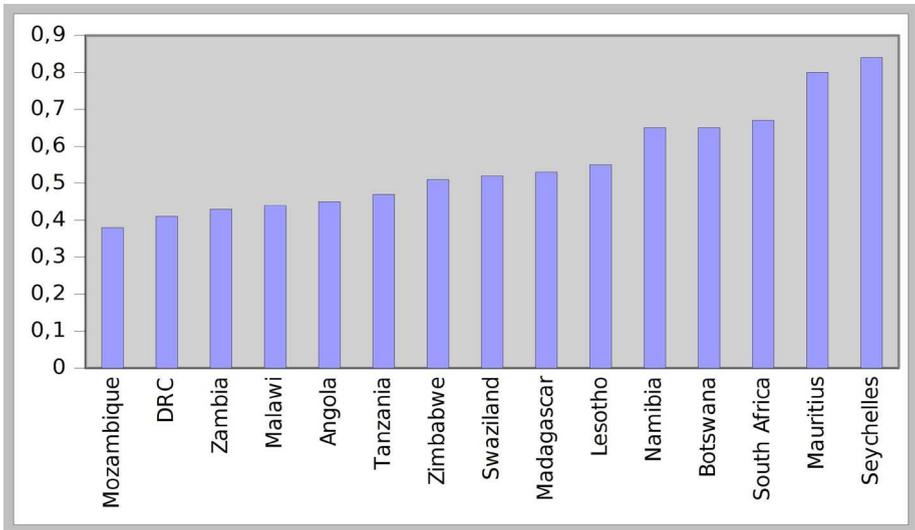
Country	Population (millions) 2008	Population growth (annual) %	GDP US\$ (billions) 2008	GDP annual growth rate % 2008	GDP per capita US\$ 2008
Angola	18.02	2.6	84.94	13.18	4,714
Botswana	1.92	1.5	13.41	2.95	6,982
Congo (DR)	62.26	2.7	11.67	6.20	182
Lesotho	2.05	0.9	1.62	3.95	791
Madagascar*	19.11	2.7	9.46	7.34	495
Malawi	14.85	2.8	4.27	9.70	288
Mauritius	1.27	0.6	9.32	4.54	7,345
Mozambique	22.38	2.3	9.85	6.79	440
Namibia	2.13	2.0	8.84	2.93	4,149
Seychelles	0.10	2.2	0.83	2.81	9,580
South Africa	48.69	1.7	276.45	3.06	5,678
Swaziland	1.17	1.4	2.84	2.40	2,429
Tanzania	42.48	2.9	20.49	7.46	373
Zambia	12.62	2.5	14.31	6.0	1,134
Zimbabwe**	12.46	0.1	3.42	n/a	n/a

*Madagascar is currently suspended from SADC because of political turmoil

**2005 figures

Source: World Bank, 2010

Figure 1.1
Human Development Index for SADC member states (2005)



Source: UNDP, 2007

man development in a country, calculated in terms of life expectancy at birth, combined gross enrolment ratios at all levels of education, adult literacy and real per capita income.

The low level of human development inherent in SADC requires that the regional bloc make improvements in both the social and economic indicators of its members. This situation presents an opportunity for SADC to deploy appropriate mechanisms for market integration with a view of providing reliable telecommunications services for economic development. Saunders, Warford and Wellenius (1994) concluded in their research that telecommunications contribute to economic development by providing better market information,

improved transport efficiency, reduced isolation and increased security for villages, organisations and individuals, and increased connectivity to (and coordination with) international economic activity. The last decade has shown the critical importance of the telecommunications sector, not only as a growth industry itself, but also as an enabler for other economic activities, boosting trade and enhancing the remote communities' access to information, thereby empowering them to participate more closely in the development process. In order to make good use of telecommunications to foster education, health and administration, and to improve communications, a rapid expansion of telecommunications and a reduction in their costs is urgently

required throughout SADC. Hence, a good telecommunications network can be used to improve the level of human development in SADC.

1. 3. Geographical dispersion

From the Democratic Republic of the Congo (DRC) in Central Africa, to Tanzania in East Africa and South Africa in Southern Africa, SADC member states are located in different regions of Africa. In general, the geographical sizes of member states are very large, for example, the area of the DRC is 2,344,885 km², while Angola is 1,246,700 km², South Africa is 1,220,000 km² and Tanzania is 945,087 km². Consequently, SADC is beset by problems caused by large distances and scattered populations and markets. The geographical dispersion of SADC member states creates both challenges and opportunities.

The foremost challenge that SADC faces is that its membership is not based on shared geography and therefore, to some extent, common regional interests. Almost all SADC countries are members of at least two regional organisations, often having overlapping mandates. Tanzania, for example, is a member of the East African Community (EAC) and SADC while Zimbabwe, the DRC, Malawi and Zambia are also members of COMESA. The implication is that, in many aspects, national level interests take precedence over regional level interests and the implementation of agreed resolutions and protocols is at times not a priority or done half-heartedly.

Slightly more than 60% of the inhabitants of SADC enjoy the benefits of access to telecommunications and the Internet. Those with Internet access

grapple with slower speeds and higher costs compared to the developed world. This situation presents an opportunity for providing telecommunications services, especially wireless based technologies in view of the large distance involved, to those sections of the SADC population that do not have service. An estimated 100 million people require telecommunications services in the region.

1. 4. SADC Institutional Capacity

An important determinant of a regional grouping is the form of organisation and its modality (Linn, 2009). A regional bloc can be formal and treaty based like the EU. It can also be an informal programme or a summit with decisions taken at the ministerial or head of state level. In terms of modalities, a regional bloc can be an advisory, regulatory, financing or arbitration/enforcement body. SADC is organised as a Summit with the highest decisions made by the Head of States or delegated to the Ministers of Information and Communications Technology. In terms of modalities, SADC is more of an advisory and financing body with limited or no regulatory and enforcement capability.

This situation is a threat to SADC. Without the capacity to effectively enforce its resolutions or agreements, SADC is a weak organisation. There is no guarantee that decisions taken at the regional level will be implemented nationally. The situation is not helped by the fact that between 60-70% of the SADC budget comes from donors (DRN, 2007). This means SADC is financially weak as well, so some important programmes have to be shelved for

financial reasons. If SADC had significant financial muscle, the body could use the 'carrot and stick' method to enforce its decisions.

2. SADC COOPERATION IN TELECOMMUNICATIONS

2.1. Cooperation Initiatives and Programmes

Over the past decade, SADC has been moving towards regional integration through the development and implementation of programmes and projects in the areas of telecommunications policy, legislative and regulatory framework harmonisation, Internet and broadband infrastructure development, harmonisation of telecommunications infrastructure master plans, and joint programme implementation and resource mobilisation. A review of the major SADC cooperation initiatives in telecommunications and the progress made to date, organised in chronological order and starting with the latest initiatives and projects, are discussed below.

2.1.1. *Key SADC Cooperation Frameworks in Telecommunications*

a) The e-SADC Strategy Framework

Launched in 2010, the e-SADC Strategy Framework is the latest regional telecommunications initiative in the region. It was developed jointly by SADC and the United Nations Economic Commission for Africa (UNECA). The aim of the framework is to harness ICT for socio-economic development and regional integration.

The proposed regional priorities for 2011/2012 include, amongst others, the setting up of National and Regional Internet Exchange points, harmonisation of Cyber Security Regulatory Frameworks and a Regional project to improve interconnection among physical, electronic, financial and postal networks. Since this initiative has just been recently launched, it is still too early to assess progress. It has however generated a lot of interest among member states. Source: Media Statement on the Meeting of SADC Ministers Responsible for Telecommunications, Postal and ICT held in Luanda, Angola, 2010.

b) CRASA Wireless Technologies Policy and Regulations

The Wireless Technologies Policy and Regulations are guidelines that outline policy and regulatory recommendations for wireless technology deployment in SADC. Developed in 2006 by the Communications Regulatory Association of Southern Africa (CRASA), the guidelines place special emphasis on VSAT technology and wireless LAN because of their speed of deployment, although WiMax and Wi-Fi wireless technologies are also included. These regulations were developed against a background of the dearth of regional policies on satellite and little regulatory harmony on wireless policies in SADC member states.

The Wireless Technologies Policy and Regulations have contributed to the rising adoption of wireless technologies in SADC countries. Mobile telephony and VSAT are the most predominant technologies in the region. Wi-Fi internet technology has been adopted

in almost all SADC countries while there is rising deployment of WiMAX technology in the region. Tanzania, for example, has 25 operators assigned WiMAX spectrum in the 2.3, 2.5, 3.3 and 3.5 MHz bands while Malawi has 135 VSAT Terminal licences (CRASA, 2010).

c) Policy Guidelines on Licensing for SADC Countries

The Policy Guidelines on Licensing for Telecommunications in SADC was developed by the Telecommunications Regulators Association of Southern Africa (TRASA) in 2002. These were designed to assist national regulatory authorities and other stakeholders with a clear framework for licensing processes in SADC markets, which were increasingly becoming competitive (CRASA, 2006).

These regulations, still in force in all SADC countries, have seen the liberalisation of telecommunications market segments such as private networks, Internet Service Providers (ISPs), Value Added Network Services (VANS), mobile etc in all SADC member states. For example Botswana has 43 licensed VANS, while Zimbabwe has 19 private networks, Malawi has 15 ISPs, Swaziland 8 ISPs and South Africa has three mobile operators. The process of liberalisation has been slower in the fixed-line services where Tanzania, Mauritius, South Africa and the DRC have more than one operator in the sector (CRASA, 2010).

d) SADC Telecommunications Policies & Model Telecommunications Bill

The SADC Telecommunication Policies & Model Telecommunication Bill

are guidelines to develop telecommunications at the national level. Developed in 1998, these documents specify the principles governing interconnection between operators, including providers of value-added services, within a national boundary, to allow for inter-operability and inter-communications.

Except for Zambia (1994) Botswana (1996) and Madagascar (1994), which had already developed their policy statements, the majority of SADC member states have used these documents as the basis or as input to their sector policy statements. State-owned telecommunications operators in eight SADC member states have already been privatised while growth in mobile telephony has overtaken fixed-line telephony in the region as is the case in the whole of Africa (CRASA, 2010).

e) The SADC Protocol on Transport, Communications and Meteorology

Signed by SADC governments in August 1996, the SADC Protocol on Transport, Communication and Meteorology is the cornerstone of telecommunications development in the region. The Protocol was developed after extensive consultation at all levels of government and business in member states. Although signed almost 13 years ago, the protocol is still in force in SADC. It calls for the setting up of autonomous regulators, separate from telecommunications operators in each member state and the creation of a regional association of regulators. The Protocol provides for the harmonisation of communications policies and legislation of member states and ultimately, rules and regulations to ensure the development of a coherent re-

form process of the telecommunications sector in order to encourage investment in the sector.

The Protocol has had significant impact on the development of telecommunications in SADC. It resulted in the creation of the regional regulatory body – the Telecommunications Regulatory Association of Southern Africa (TRASA) in late 1997, but now known as the Communications Regulatory Authority of Southern Africa (CRASA). Except for the Seychelles and Swaziland, each member state has set up autonomous regulatory authorities in line with the recommendations of the Protocol. So successful has been the Protocol that it has been adopted as a model by other regional entities such as ECOWAS and COMESA. These institutions have set up similar institutions to CRASA, i.e. West African Telecommunications Regulators Association (WATRA) and the Association of Regulators for Information and Communications for Eastern and Southern Africa (ARICEA), in their respective regions. Hence, the progress made by SADC has provided models for ECOWAS and COMESA. Source: CRASA, 2010

2.1.2. *SADC Telecommunications Infrastructure Projects*

a) The SADC Regional Information Infrastructure (SRII) Project

The Southern Africa Regional Information Infrastructure (SRII) initiative, spearheaded by the Southern Africa Development Community (SADC) and the Southern Africa Telecommunications Association (SATA), is a fast expanding broadband terrestrial network within

and between the SADC member states. The SRII project, based on private sector participation, aims to upgrade and expand the existing telecoms network in SADC region and reduce the costs of telecommunications by shifting a portion of satellite traffic onto the newly constructed optical fibre transmission network. It was launched in 2001.

The SRII short term high priority project included the following transmission links: South Africa (SA) to Lesotho, SA to Zimbabwe, Botswana to Zambia, Zimbabwe to Malawi, Namibia to Zambia and Malawi to Tanzania. The medium term high priority project covered the following transmission routes: SA to Namibia, SA to Botswana, SA to Swaziland, Swaziland to Mozambique, Mozambique to Harare and Zambia to Malawi. Overall, this project is now 80% complete. The SRII project is one of the few success stories for the development of broadband regional infrastructure in terms of cross-border links (SATA, 2010).

b) Digital Broadcasting Migration in SADC

In June 2009 SADC Ministers agreed to migrate their analogue broadcasting networks to a Digital Terrestrial Television (DTT) platform. As part of a harmonised approach to Digital Migration, the aim of SADC was to develop harmonised technical standards for digital broadcasting equipment, come up with harmonised frequency band plans for the provision of the digital broadcasting services and harmonised licensing frameworks. The regional body adopted a switch over date of 31 December 2013.

Several countries in SADC are way ahead of the regional body in the im-

plementation of the DTT. SA started pilot-testing its DTT on the Digital Video Broadcasting-Terrestrial (DVB-T) standard in November 2010. There is nearly 100% DTT coverage in Mauritius on the DVB-T standard. Commercial DTT broadcasting is already operation in Namibia, on the DBV-T standard. Tanzania licensed its first multiplexer for DTT on the DVB-T standard in March 2010. Source: CRASA, 2010

3. TELECOMMUNICATIONS IN SADC: A SUCCESS STORY

Habeenzu (2003) argues that SADC has made more progress in harmonising policy and regulatory frameworks than COMESA or any other regional integration organisation in Africa. The various ICT protocols of COMESA and ECOWAS draw heavily on the SADC protocols and guidelines. Jadoo (2006) concurs with this position, that some benefits have accrued to SADC because of the regional bodies' integration efforts in telecommunications. Although there is consensus that cooperation in SADC has made substantial progress, there is a dearth of empirical evidence, which demonstrates the extent to which this progress is attributable to regional cooperation.

The major benefit of regional cooperation in SADC has been the liberalisation of the telecommunications regulatory environment, and the ensuing competition. The competition has transformed the telecommunications landscape in SADC across a range of dimensions. This section uses a variety of statistics to capture some of the benefits of SADC cooperation initiatives and ef-

forts. These include the development of a regional policy and regulatory framework, the introduction of competition, the increasing deployment of infrastructure as illustrated by the rising telecommunications numbers and the attraction of investment to the sector.

3. 1. A Liberalised Regulatory Environment

Over the past decade, the telecommunications policy pursued by SADC through its Protocol for Transport, Communications and Meteorology in 1996 and its twin documents – the SADC Telecommunication Policies & Model Telecommunication Bill of 1998 – has facilitated radical changes in the institutional and regulatory framework of the industry. In July 1996 for example, before the signing of the Protocol into law, SADC had only 10 mobile operators, compared to 46 operators at the end of 2009. This represents a phenomenal growth in the number of mobile operators of 360% in 13 years, suggesting that regional cooperation has been the most significant factor in this rapid liberalisation of the SADC markets.

A key performance indicator for a positive policy and regulatory environment in a given country or region is the level of competition in that country. The substantial level of competition in the telecommunications sector in SADC is reflected by the following statistics (as at December, 2009): 27% of the SADC mobile markets had two (duopoly) mobile operators, 67% had three (triopoly) or more operators and only 6% were a monopoly. Using the number of operators as a proxy for competition, Table 3.1 depicts the level of competition within

Table 3. 1.: Level of competition in SADC countries

Country	Number of Mobile Operators	Number of Fixed Operators	Sector Regulatory	Type of Regulation
Angola	2	5	INACOM	Independent
Botswana	3	1	BTA	Independent
Congo (Dem. Rep.)	5	2	ARPTC	Independent
Lesotho	2	1	LCA	Independent
Madagascar	3	1	OMERT	Independent
Malawi	3	2	MACRA	Independent
Mauritius	3	2	ICTA	Independent
Mozambique	2	1	INCM	Independent
Namibia	2	1	NCC (CRAN)	Independent
Seychelles	3	2	MITC	Government
South Africa	3	2	ICASA	Independent
Swaziland	1	1	SPTC	Government
Tanzania	8	2	TCRA	Independent
Zambia	3	1	CAZ	Independent
Zimbabwe	3	1	POTRAZ	Independent
Total	46	25		

Source: BMI-T; 2009



SADC member countries as well as the type of regulation and sector regulator.

In the fixed telecommunications sector, the level of competition is reflected by the following statistics (as at December, 2009): 53% of the SADC markets were a monopoly while 40% had two (duopoly) fixed line operators and only 7% had three (triopoly) or more operators. The most competitive fixed line market was Angola.

3. 2. Unprecedented Growth in Subscriber Numbers

Using July 1996 as a reference point, before the Protocol was signed into law, SADC had only 1 million mobile customers compared to 120 million at the end of 2009 (see Table 3.2). This represents a phenomenal growth in the number of mobile customers of 117 times in 13 years, suggesting that regional cooperation has been the catalyst in the rapid growth of the SADC markets. These numbers mean SADC accounted for more than 30% of all mobile customers in Africa at the end of 2009.

Botswana, the Seychelles and South Africa were the top three countries in terms of mobile penetration whilst, Zimbabwe, the DRC and Malawi were the last three. South Africa alone accounted for 45% of all mobile phones in SADC. Fixed lines are increasingly becoming a rarity in SADC, constituting just above 5% of the total mobile phones in the region or a fixed penetration of only 6%.

3.3 Internet Access

Since SADC began its telecommunications liberalisation efforts, the use of

the Internet has grown rapidly in most urban areas of SADC member states, although not at the same dizzy heights as the adoption of mobile phones. With a low internet penetration of almost 8% (Table 3.3), the internet remains out of reach to most in SADC. Growth of the internet has been constrained by high cost, lack of a reliable fixed line infrastructure, lack of competing providers to route international traffic and over-dependence on satellite technologies. This situation impedes the development of Internet use, as it creates high costs for limited bandwidth. However, the situation is changing for the better with the SRII project which is nearing completion and a number of undersea optic fibre cables like SEACOM coming on-stream.

Spurred by the CRASA Wireless Technologies Policy and Regulations, there has also been an explosion in the introduction of new wireless technologies in the region supporting the internet and broadband. Technologies such as Wi-Fi, WiMAX, CDMA, EDGE, 3G and 3.5G (HSDPA) are sprouting across SADC countries. There is a strong belief that wireless networks provide a cost-effective way for Africa to roll out broadband networks rapidly, especially in the rural areas.

3. 4. Significant Injection of Foreign Capital

One other notable effect of SADC cooperation in telecommunications has been the story of private participation in infrastructure investment in SADC. Regional and international players continue to jostle for positions in SADC's mobile market. Major strategic investors

Table 3.2: Mobile and fixed line subscribers in SADC

Country	Mobile Customers	Mobile Penetration (%)	Fixed Line Customers	Fixed Penetration (%)
Angola	7,700,000	44.00	121,500	0.77
Botswana	2,300,000	148.77	147,876	9.57
Congo (Dem. Rep)	11,640,000	18.51	55,000	0.09
Lesotho	820,000	34.07	65,200	1.91
Madagascar	5,100,000	25.23	164,900	0.72
Malawi	2,300,000	17.56	220,000	1.80
Mauritius	1,150,000	90.41	375,000	29.48
Mozambique	7,420,000	35.76	80,000	0.39
Namibia	1,800,000	88.02	145,000	7.09
Seychelles	93,500	111.51	22,300	26.63
South Africa	53,640,000	110.17	4,300,000	8.83
Swaziland	730,000	71.43	44,000	4.31
Tanzania	16,250,000	40.89	120,000	0.30
Zambia	6,250,000	50.20	90,600	0.72
Zimbabwe	3,100,000	22.96	348,000	2.79
Total/Average	120,293,500	60.63	6,299,376	6.36

Source: BMI-T, 2009; ITU, 2009

in the mobile telecommunications industry in SADC are Vodacom, Zain Africa (now sold to Bharti of India), Mobile Telephone Networks (MTN), Econet Wireless International, Millicom and France Telecom (through its subsidiary Orange Telecom). Between them, these enterprises account for over 70% percent of mobile customers in the region.

Telecommunication sector reforms have triggered significant private invest-

ment in SADC. For example, from 2003 to 2008 investors pumped in US\$11.9 billion in five SADC countries, ie South Africa, Angola, Tanzania, DR Congo and Zambia (see Table 4.4). The biggest recipient of this investment was South Africa with US\$9.5 billion. Tanzania registered the largest growth in investment during the period with a 602% growth, followed by Zambia with 387%. These investments funds are critical to

Table 3.3: SADC Internet statistics

Country	Internet subscribers	Number of Internet users	Internet users per 100 inhabitants	Broadband customers
Angola	107,000	607,400	3.28	20,000
Botswana	10,000	120,000	6.15	15,000
Congo (Dem. Rep)	20,000	365,000	4.29	20,000
Lesotho	2,600	76,800	3.72	400
Madagascar	8,300	320,000	1.63	4,200
Malawi	105,000	716,400	4.69	3,400
Mauritius	285,970	285,957	22.40	174,842
Mozambique	13,500	612,500	2.68	12,500
Namibia	90,000	127,500	5.87	400
Seychelles	6,000	34,000	40.36	3,800
South Africa	1,350,000*	4,420,300	8.82	481,000
Swaziland	22,000	90,000	7.60	1,500
Tanzania	200,000	676,000	1.55	6,400
Zambia	18,100	816,700	6.31	8,000
Zimbabwe	99,700	1,422,000	11.36	18,000
Total (T)/ Average(A)	2,338,170	10,690,557	8.71 (A)	769,442

As at end of 2008*

Source: ITU, 2009

Table 3. 4: Countries showing strong growth in ICT products consumption and infrastructure

Key destinations for ICT Products and Infrastructure (US\$ millions)							Growth : 2003-2008 (%)
Destination	2003	2004	2005	2006	2007	2008	
South Africa	975	1,314	1,647	1,836	1,999	1,700	74
Angola	99	107	107	189	224	261	162
Tanzania	37	41	68	82	208	257	602
DR Congo	31	34	66	49	97	92	200
Zambia	17	37	28	54	70	83	378

Source: UN Comtrade, 2009

SADC governments' ability to develop infrastructure and undertake poverty reduction programmes.

3. 5. Effect of Competition on Tariffs-Falling ARPU

Empirical evidence shows that the liberalisation of entry and the development of effective competition in telecommunications services in SADC have led to lower prices. Liberalisation results in competition and competition, in turn, results in more consumer choice and, invariably lower costs. Table 4.5 shows that the Average Revenue Per User (ARPU) of operators across the African continent has been falling for the past three years. However, since key strategic investors such as Millicom, Vodacom and MTN have a presence in SADC, the same trend of falling ARPU is replicated across all countries in SADC, providing a large boon for consumers.

CONCLUSION AND PERSPECTIVES

The evidence presented in the previous section suggests that SADC has

made progress in the implementation of a harmonised telecommunications policy covering the legal and regulatory frameworks; in telecommunications infrastructure, network connectivity, telecommunications investment and achieved a reduction in the costs of telecommunications service. The data reinforces the view that regional integration agreements are an effective way of building the competitiveness of the industry. Although this trend largely mirrors what is happening elsewhere in Africa, as argued elsewhere, SADC is considered a success story in Africa in terms of regional cooperation in telecommunications.

The pace of implementation of the SADC Protocol on Telecommunications has inevitably been different across countries. The various regional economic cooperation initiatives, while moving at different paces in terms of the implementation of the provisions of their respective treaties, are showing some progress, even if at times, it is slow. For example, Swaziland and the Seychelles have been lagging in implementing independent regulatory institutions, 13 years after the Protocol was signed into law. The lack of enforcement

Table 3.5: ARPU Trends in SADC

Operator (Presence in SADC)	ARPU (US dollars)		
	2007	2008	2009
Millicom (DRC, Tanzania, Madagascar, Mauritius)	9.20	8.31	6.60
Vodacom (Mozambique, Lesotho, Tanzania, DRC)	11.27	9.17	8.84
MTN (Botswana, South Africa, Swaziland, Zambia)	17.40	15.25	10.00

Source: Company annual reports, 2010

mechanism means that there is need for regional blocs to address this low level of implementation of SADC resolutions.

There are significant variations in the levels of development among SADC member states. Countries realise that substantial resources are required to put regional economic endorsement into practice. The level of resources required is unfortunately, not always available. This creates challenges related to economic preparedness, as member states are not always in an economic position to implement expensive programmes or initiatives. Thus, there is need to source external funding for some programmes to cushion members against high expenditure.

As alluded to in Section 2.3, the fact that SADC member states are in different geographical regions of Africa raises another challenge linked to the implementation of regional programmes – the lack of political will on the part of some governments. This may be because the programmes are unpopular at home or a low priority in the region where the country is located. The situation is further compounded should there be an impending election. This illustrates one of the challenges facing the pursuit of economic integration in SADC – regional protocols are assigned and schedules are set without any real political commitment. Hence, while regional integration is essential in a globalising world, regional integration cannot be a substitute for sound and competitive policies at the national level.

REFERENCES

BMI-T (2009) BMI-TechKnowledge Communication Technologies Handbook, Johannesburg, South Africa.

CRASA (2006) CRASA Wireless Technologies Policy and Regulations, CRASA, Maputo, Mozambique?

CRASA (2010) Available from: <http://www.crasa.org> [Accessed 10 December 2010]

DRN (2007) Evaluation of the Commission's Support to Southern African Development Community – SADC Regional Level Evaluation, DRN, Italy.

Gang, Y.I. and Padoa-Schioppa, T. (2004) Foreword, The G-20 Workshop on Regional Economic Integration in a Global Framework, Beijing, 22-23 September.

Habeenzu, S. (2003) Harmonising Regional Cooperation in Telecommunications Sector: SADC or COMESA? Zambia Trade and Investment Enhancement Project (Zamtie).

ITU (2009) ICT Indicators 2009. ITU, Geneva.

Jaddoo, P.N. (2006) Regional ICT Initiatives and Policies, Presentation at the Botswana Thetha Forum the SANGONET ICT Discussion Forum, 5th-6th October.

Laudon, K.C. and Laudon, J.P. (2007) Management Information Systems: Managing the Digital Firm. New Jersey: Pearson Prentice Hall.

Linn, J. (2009) Regional Economic Cooperation: Lessons from Asia. Presentation at the CAREC and Wolfensohn Centre for Development at Brookings, Brussels, March 2-3.

Polachek, S.W. (1992) Conflict and Trade: An Economics Approach to Political Interactions. In Isard, W. and C.H. Anderton, eds., Economics of Arms Reduction and the Peace Process.

SADC (2010) Available from: <http://www.sadc.int/index/browse/page/52> [Accessed 9 November 2010].

SATA (2010) Available from: <http://www.sata.sec.net>. [Accessed 10 January 2011].

Saunders, R. J., Warford, J.J., and Wellenius, B. (1994) *Telecommunications and Economic Development* (2nd Edition). Baltimore, MD: John Hopkins University Press.

UN Comtrade (2009) Available from : <http://www.sadc.int/index/browse/page/52> [Accessed 22 October 2010].

UNDP (2007) *Human Development Report (2007/2008)*, New York, USA.

UNECA (2009) *Towards Monetary and Financial Integration in Africa*. Addis Ababa, Ethiopia.

UN ESCAP (2004) *Meeting the Challenges in an Era of Globalisation by Strengthening Regional Development Cooperation*, United Nations.

World Bank (2010) Available from: <http://data.worldbank.org/data-catalogue> [Accessed 23 October 2010].

WTO (2010) Available from: (http://www.wto.org/english/tratop_e/region_e/region_e.htm) [Accessed 20 December 2010]. ¶

