ICT SECTOR BASELINE REPORT

June 2017

FOREWORD

The world is experiencing the Fourth Industrial Revolution, a shift to a digital economy. The rapid take up of new technologies including mobile communications, digital platforms, big data, cloud computing and social media are changing the nature of products and services and the way people interact. Mobile communications have been the primary driver of this change both globally and in Swaziland. With a population of approximately 1.3 million, the report finds that Swaziland has a 74% mobile penetration rate, approximately 263 588 mobile broadband users and about 40,000 fixed broadband users. From a content perspective, it is important to note that Swaziland's broadcasting sector is relatively small with only 5 licensees across the television and radio markets, including a single subscription broadcasting player – however as in all countries, user generated content is increasing along with social media uptake.

The 'baseline' is shifting as more people are getting connected, especially to mobile networks and accessing digital content every day. The challenge now is to increase access to digital technologies and the Internet, thus moving Swaziland into a digital future at a faster pace. The regulatory framework needs to be updated to align with new developments and to promote the development of relevant and local content, bearing in mind the realities of the Swazi consumer and advertising markets, and to facilitate a robust digital economy.

Swaziland is faced with the challenge of keeping up with the rapid pace of technological change and the developments that characterise the fourth industrial revolution, while recognising that its ICT market, and specifically its broadband infrastructure market, are still at the early stages of liberalisation and its postal infrastructure is strategic but underutilised; while the regulatory framework is also newly established. The Swaziland Communications Commission (SCCOM) therefore has the challenge of ensuring that regulation is aligned with this fast changing market.

The objective of the Baseline ICT Sector Report is, for the first time, to provide SCCOM with an overview of the current status of the three key markets that it regulates – telecommunications, postal services and broadcasting; identify market constraint factors which may be impending sector growth and development; to make evidence-based regulatory decisions; and to have a basis against which to measure progress and development in the Swazi ICT sector.

The report finds that in terms of the telecoms regulatory framework many, although not all, of the key regulations and regulatory tools are in place, but implementation is critical. In terms of broadcasting and postal regulation significant development is needed, some of which is dependent on legislative developments (i.e. Broadcasting Bill). Notwithstanding this, the ICT sector will

continue to develop at a rapid pace, as is the case globally, and SCCOM will face the challenge of ensuring that regulation is responsive to industry and consumer needs and relevant to address the ICT sector realities.

The report provides information on the status quo. It does not, at this stage, seek to make any recommendations on steps to be taken by SCCOM to improve the performance of the sector.

Table of Contents

ACRONYMS AND GLOSSARY

2G	Second Generation mobile network – GSM/GPRS/EDGE – used mainly for voice, SMS and basic data services
3G	Third Generation mobile network – WCDMA/HSPA/HSPA+ - providing high speed internet access
4G	Fourth Generation mobile network – LTE/LTE-A – providing very high speed broadband services. LTE-A is also often used for provision of fixed wireless connectivity.
(A)DSL	(Asymmetrical) Digital Subscriber Line
ARPU	Average Revenue per User
ATM	Asynchronous Transfer Mode
CAGR	Compound Annual Growth Rate
CDMA	Code Division Multiple Access (technology competitive to GSM)
DC	Data Centre
DR	Disaster Recovery
DSLAM	Digital Subscriber Line Access Multiplexer
E	Emalangeni (Swazi currency)
E1 (link)	A 2Mbps link
EV-DO	Evolution Data Optimised (on CDMA technology)
FTTH/B/x	Fibre to the Home / Business / anything (x)
GB	Gigabyte (unit of data quantity = 1 024 Megabytes)
Gbps	Gigabit per Second
GSM	Global System for Mobile (2G mobile technology)
ICT	Information and Communication Technologies
IP	Internet Protocol
ISDN	Integrated Services Digital Network
ISP	Internet Service Provider
IT	Internet Technology
ITU	International Telecommunications Union
IXP	Internet Exchange Point
LTE-A	Long-Term Evolution – Advanced (4G mobile / fixed wireless network and services)
MB	Megabyte (unit of data quantity = 1 024 Kilobytes)
Mbps	Megabit per Second
MMS	Multi-media Message System
MNO	Mobile Network Operator
MS	Millisecond
MSAN	Multi-service Access Node
MSC	Mobile Switching Centre (exchange)
MVNO	Mobile Virtual Network Operator
NGN	Next Generation Network
PBX	Private Branch Exchange

SADC	Southern African Development Community
SCCOM	Swaziland Communications Commission
SME	Small and Medium Enterprises
SMS	Short Message System
SPTC	Swaziland Post and Telecommunications Corporation
UPU	Universal Postal Union
USF	Universal Services Fund
USO	Universal Services Obligation
VAS	Value Added Services
VoIP	Voice over Internet Protocol
Wi-Fi	Wireless Fidelity
WLL	Wireless Local Loop

1. PART 1: REPORT OVERVIEW

1.1 BACKGROUND

As information and communications technologies ("ICTs") become more central to participation in national and global economies, it has become clear that the world is entering what has been termed "the Fourth Industrial Revolution". Like the industrial revolutions before it, this ICT-based revolution is changing the way in which people live, work and play[1], and most importantly how society engages with the primary means of digital production – technology, processing and storage capacity. Processing and storage capacities are rising exponentially, and knowledge is becoming accessible to more people than ever before. This is made possible through the provision of information via digital devices used in conjunction with broadband networks. Beyond personal communications, which has been the focus of ICT regulators over the last decade (with a particular focus on mobile in developing countries), the fourth industrial revolution brings the Internet of Things ("IoT) and Machine to Machine ("M2M") communications to the centre of the digital future. This new digital future is dependent on bandwidth, hence the need to take measures to increase infrastructure roll out and to improve access to such infrastructure through promoting universal access and service to broadband.

Advances relating to new technologies, including fixed and mobile communications, digital platforms, applications, social media and digital broadcasting services are taking place rapidly both globally, and locally in Swaziland. Swaziland is faced with the challenge of keeping up with the rapid pace of technological change and the developments that characterise the fourth industrial revolution, while recognising that its ICT market, and specifically its broadband infrastructure market, are still at the early stages of liberalisation; while the regulatory framework is also newly established. The Commission therefore has the challenge of ensuring that regulation is aligned with this fast changing market. To this end, this report considers the global ICT context and the status quo in Swaziland's telecommunications (telecoms), broadcasting and postal sectors and puts forward recommendations for Swaziland to move swiftly and purposefully to digital convergence and a digital future.

1.2 PURPOSE

This Baseline ICT Sector Report was initiated by the Commission. The Commission then partnered with Pygma Consulting to conduct a study on the communications market in Swaziland. The main objective of the study is to provide the Commission (SCCOM) with an overview of the current status of the three key markets that SCCOM regulates – telecommunications, postal services and broadcasting. Collectively, these are referred to as 'the ICT sector' in this report. The baseline data will enable the Commission to identify market constraint factors, which may be impeding sector

[1] Negroponte, N. (1995). Being digital. New York, USA: Alfred A.Knopf

growth and development; to make evidence-based regulatory decisions; and to have a basis against which to measure progress and development in the Swazi ICT sector.

It should be noted that this report is the first in a series of reports to be issued by the Commission. The next report will focus on telecommunications pricing, both wholesale and retail. The third, and final report will be on universal service and access.

1.3 METHODOLOGY

The analysis presented in this report is based on data obtained through primary and secondary research.

- Primary research consisted of interviews undertaken with the relevant stakeholders in the telecoms, broadcasting and postal markets and data made available by providers of ICT services in Swaziland. **Annexure A** is a comprehensive list of interviews conducted.

- Secondary research drew on data available in the public domain (including operator reports) and data available in Africa Analysis and Pygma Consulting repositories.

1.4 STRUCTURE

This report is the consolidation of baseline studies in four areas:

- Telecommunications market (Part 3), which covers fixed, mobile, broadband, data and cloud services and e-commerce;
- Postal market (Part 4), which addresses postal infrastructure, services and financial postal inclusion;
- Broadcasting market (Part 5) which deals with television ("TV") and radio; and
- e-Government (Part 6), which although it is not a market per se, is included in recognition of the need for a robust e-government strategy as one of the foundations of a connected broadband-enabled society.

The four baseline studies are preceded by this introductory section of the report which provides a "Report Overview" (Part 1) and the Executive Summary (Part 2).

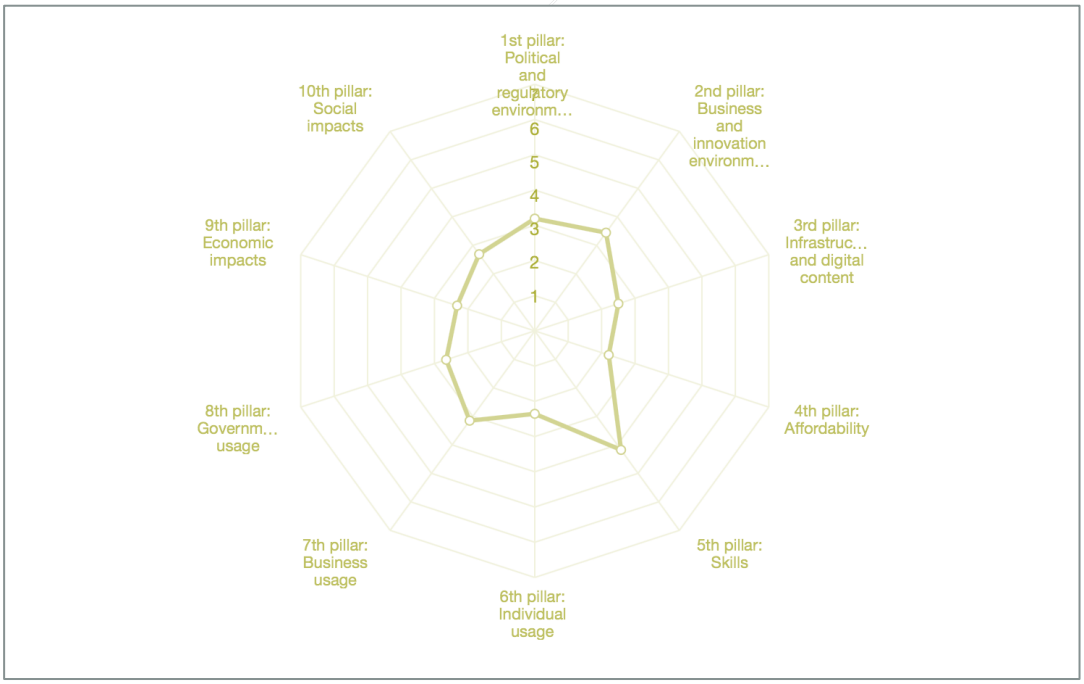
1.5 EXECUTIVE SUMMARY

1.5.1 Global Context

The growth and development of each ICT sub-sector – telecommunications, postal services, and broadcasting – has an impact on the digital future of Swaziland. The rapid take up of new technologies including mobile communications (Part 3), digital platforms and broadcasting content (Part 3 and Part 4), big data, cloud computing and social media are changing the nature of products and services and the way people interact. Given the information set out in the telecommunications, postal and broadcasting baseline market reports, the challenge for Swaziland is to build upon its recent achievements since the establishment of SCCOM in law in 2013. This includes 'future proofing' the rules and regulations governing the ICT sector and identifying changes that will enable further investment in connectivity for a thriving digital economy.

The World Economic Forum (WEF) *Global Information Technology Report 2016* features the latest iteration of the Networked Readiness Index (NRI), which assesses the factors, policies and institutions that enable a country to fully leverage information and communication technologies for increased competitiveness and well-being. Swaziland's overall ranking is 129 out of 139 countries.

Figure 1: Swaziland's Networked Readiness Index



Source: WEF (2016)

This report provides an analysis of the NRI for the purposes of providing a context for Swaziland's ICT sector interventions. Swaziland's strongest NRI positioning in 2016 is its level of skills development for participation in the digital economy. However, in order to achieve greater economic and social impact, it requires policy and regulatory interventions to advance the business and innovation environment; improve the investment climate; increase infrastructure development and digital content; improve affordability; and advance individual, business and government usage.

Part 3 of this report discusses Swaziland's positioning with reference to peer countries and model African markets, and makes recommendations on areas of policy and regulatory focus.

1.5.2 Policy, Legislation, Regulatory Framework and Regulatory Decisions

Policy is important to guide the sector payers, both public and private, to achieve the government's intentions and objectives for the development of the sector in the interests of the public. Swaziland's National Development Strategy, Vision 2022 is the overarching policy and strategy, which guides not just the ICT sector, but all sectors of the economy. Effective regulation is important because it is the tool to implement the policy objectives and monitor the market, facilitate its development and to ensure fair competition for the benefit of consumers.

All the ICT sector-specific policies in Swaziland need to be aligned to Vision 2022. It is noted that the key ICT sector policies and strategies, such as the NICI policy and the e-government strategy, have implementation periods that are now coming to an end (i.e. 2016 and 2017 respectively). This is therefore an opportune time to assess their impact and update them. Although the NICI and e-government policies have been in place for over a decade, the Swazi regulatory environment is relatively new, with SCCOM only having been established in law in 2013. As such, this report finds that most of the key elements of the regulatory framework, namely the regulations and recent licensing decision, are 2016/ 2017 developments and are either underway or have occurred during the course of the preparation of this report. Notably, the policy, legislative and regulatory developments are skewed towards the traditional telecoms sector, with broadcasting and postal lagging behind. The disproportionate focus on the telecoms sector is a trend seen in many converged ICT sectors. In particular, while the telecoms sector has a full set of regulations made in terms of the Electronic Communications Act (2013) and the Swaziland Communications Commission Act (2013), neither the postal nor the broadcasting sector has a licensing framework, a sector policy or, in the case of the broadcasting sector, the requisite legislation, pending the finalisation of the Broadcasting Act.

A key finding of this report relates to the need for government to put in place the foundational elements for the three sub-sectors of the ICT sector, namely policies and laws, and for SCCOM to ensure that the requisite postal, broadcasting and telecoms regulations and decisions are in place and up to date. The report provides a checklist for the attention of the regulator.

1.5.3 Telecommunications market

The Swazi telecommunications market is currently undergoing significant change and is in the process of liberalisation, with the relatively recent introduction of an independent regulator (SCCOM) in 2013, the publication of key ICT sector regulations in 2016 followed by the recent licensing of a third national mobile licence and the impending legal separation between SPTC's telecommunications infrastructure and services businesses. Over the past few years, changes have been introduced in this market, which are beginning to effect change in the competitive landscape, resulting in gradually improving access to and quality of ICT services, such as the introduction of 3G and 4G services. The process of market adjustment is, however, likely to take another two to three years before significant improvements take root. These market developments arise after a long period during which the sector could be characterised as underdeveloped and monopolistic.

The effects of monopolistic behaviour on both the fixed and mobile markets have resulted in relatively high prices of services (wholesale and retail)[2] and have led to market underdevelopment.

An overview of the ICT environment in Swaziland is provided in Table 1 below.

Table 1: Overview of Swaziland's ICT environment

Item	Relevant statistics
Total number of fixed lines	44 612 (2016)
Fixed operators (market share)	SPTC (Swazi Telecom): 100%
Total number of mobile subscribers	967 262 (2016)
Mobile operators (market share)	MTN Swaziland: 100.0%
Fixed broadband subscribers	Total: 13 768 (2016) (incl. leased lines) DSL – 76.8% market share Leased lines – 8.1% market share Cable – 0.0% market share Fibre – 0.0% market share Other/Wireless – 15.1% market share
Broadband operators (market share)	Real Image: 51.7% Swazi.net (SPTC): 45.3% Posix: 2.5% Touch-IT: 0.4% Other players: 0.3%
Mobile broadband subscribers	Total subscribers (SIM cards): 263 588 (2016) 3G: 250 000

[2] Swazi pricing analysis undertaken as a separate study

	4G (LTE): 13 588
Fixed penetration	Population: No data Household: 10%
Mobile penetration	Population: 74% Household: No data
Broadband penetration	Population: No data Household: 3.4%
Source: SPTC (2016); MTN (2016); TeleGeography (2016), Africa Analysis (2016)	

Part 3 of this Report is the Baseline Telecommunications Sector Report which provides an analysis of the telecommunications market.

1.5.4 Postal Market

This report provides an overview of the postal segment of Swaziland's national ICT sector. In addition to the normally understood definition of "postal" services, that is the transmission of letters and parcels by a national postal authority, this review also considers other services provided by the postal authority, as well as the private courier market segment. At present, there is no licensing framework for the various sub-sectors of the postal sector, i.e. reserved / public post and unreserved / courier services.

The Swazi postal sector is dominated by Swaziland Posts & Telecommunications Corporation (SPTC), which is divided into two operating divisions – Swazi Telecom and Swazi Post, which act as separate, but collaborating organisations, within the parent corporation. Swazi Post's distribution is extensive and it has 33 (thirty-three) major outlets and 69 (sixty-nine) agencies.

Part 4 of this Report is the Baseline Postal Sector Review.

1.5.5 Broadcasting Market

The Swazi broadcasting sector is relatively small with only 5 licensees across the television and radio markets. According to the World Bank, 42% of households have access to electricity, giving context to the low penetration of television, which is estimated at 35.4% of households and radio penetration, which is estimated at 76.5%.[3] That said, the disparity between radio and television, save for economic limitations, shows that radio is more accessible and cost efficient for Swazis.

[3] African Development Indicators, 2007.

Swazis watch the two state-owned channels and subscription television, which is provided by Multichoice / DSTV.

TV	Type[4]	Size	Coverage/ audience[5]
Swazi TV	Public, Free to Air		-
Channel S	Private, Free to Air	24 hours	-
Multichoice	Pay TV/ Subscription		-

Radio	Type[6]	Size	Coverage/ audience	Transmitters
Swaziland Broadcasting and Information Services	Public	2 channels (18 hour English and 24 hour SiSwati)	80%	2
Voice of the Church	Community of interest	24 hours	85%	5

Part 5 of this Report is the Baseline Broadcasting Sector Review.

1.5.6 e-Government

The important social and economic impacts of the widespread use of broadband connections is understood and is the key rationale for putting broadband at the centre of socio-economic development policies, strategies and plans. Conventional wisdom has found that creating and facilitating demand for broadband services and products is vital to increase usage, socio-economic benefits, and sufficient revenue for operators and government to continue investment in infrastructure roll-out. A key driver for increasing broadband demand is e-government services, whether for online passport and national identification applications (Home Affairs) or medical (Department of Health) and educational (Department of Education) access. Thus, the status of e-

[4] There is no broadcasting licensing framework in place in Swaziland. The “type” is based on the consulting teams analysis of the broadcasters content.
[5] Data not received from stakeholders
[6] There is no broadcasting licensing framework in place in Swaziland. The “type” is based on the consulting teams analysis of the broadcasters content and the equivalent type in regimes with a defined broadcasting licensing framework.

government implementation in Swaziland with reference to the e-government policy and strategy is important.

Part 6 of this report is the e-Government framework review.

2. PART 2: SECTOR PERFORMANCE OVERVIEW

2.1 SWAZI ECONOMY

Swaziland is a small, landlocked country in Southern Africa, with a small domestic (addressable) market for ICT products and services. It is a lower middle income country with a skewed income distribution (Gini Coefficient of 51.5), which means that a large portion of the country's population has relatively low disposable income levels and, therefore, limited spending power on ICT services. It can be argued that, although the GDP and GNI are important indicators, they only measure a part of the economic dimension of sustainable development and do not adequately capture people's material conditions. That said, one cannot ignore the information brought to light by these indicators and how this shapes the development and growth of ICT in the Kingdom of Swaziland. The bulk of the country's wealthy population and much of its commercial activity is located within the so-called "corridor" stretching between the greater Mbabane area in the north-west to the greater Manzini area in the south-east over a distance of approximately 50 km in the central western part of the country.

The population of Swaziland is 1.286 million (2015), with an annual population growth rate of 1.4%[7]. The age distribution amongst Swazis shows that 59% of the population fall in the stratum of 15-64 years, while 65 years and older accounts for only 4% and 0-14years[8] accounts for 37% of the population. This age distribution is an important consideration in policy making and regulation for the roll-out of ICTs, i.e. a significant proportion of the population can be classified as youth. Expansion and growth in the ICT sector will be influenced by the age distribution of the population, as well as the role this age distribution plays in the uptake of technologies and sustainability of a diverse and robust ICT sector, especially taking into account the newest technologies.

Key socio-economic indicators for Swaziland are summarised in Figure 2 below.

[7] World Bank Data Bank, 2015
[8] World Bank Data Bank, 2015

Figure 2 Overview of Swaziland: Map and key indicators

Key Country Indicators	Map of Swaziland
• Official name: Kingdom of Swaziland • Total area (km^2): 17 363 • Population 2015 (million): 1.29 • Population growth 2015 (%): 1.4 • Urban population 2015 (%): 21.3 • GDP 2015 (USD billion): 4.118 • GDP/capita 2015 (USD): 3 200 • GDP growth 2015 (%): 1.7 (projected at 1.6 for 2016) • Capital city: Mbabane (administrative), Lobamba (royal & legislative) • Languages: English, SiSwati	
Source: World Bank & TeleGeography, 2016	

2.2 PERFORMANCE IN A GLOBAL CONTEXT

The world is entering what has been termed the “Fourth Industrial Revolution” which represents a transition to “a new set of systems that bring together digital, biological, and physical technologies in new and powerful combinations. Just as the digital revolution was built on the heart of the second industrial revolution – electricity, mass communication systems and modern manufacturing - the new systems that mark the Fourth Industrial Revolution are being built on the infrastructure of the third, i.e. the digital revolution – the availability of global, digital communications; low-cost processing and high-density data storage; and an increasingly connected population of active users of digital technologies”. [9]

With an ICT sector that is still in the early stages of liberalisation, Swaziland has the challenge of playing regulatory “catch up”, introducing fixed and mobile competition, lowering broadband prices and increasing quality, while also on the cusp of the Fourth Industrial Revolution. Importantly, increasing ICT penetration is not an end in itself. The *use* of ICTs by the Swazi population is the

[9] World Economic Forum, 2016

ultimate objective, in particular given the positive impact of ICT growth on development – GDP and job creation in particular.

The *Global Information Technology Report 2016* features the World Economic Forum's Networked Readiness Index (NRI), which assesses the factors, policies and institutions that enable a country to fully leverage information and communication technologies for increased competitiveness and well-being. The NRI, established in 2000, includes an analysis of Swaziland and ranks it alongside 138 other countries (total 139 countries). It furthermore provides trend information and an indication of performance of an extended period of over a decade.

Several sub-Saharan African countries are among the top upward movers on the NRI, including South Africa (65th, up 10), Ethiopia (120th, up 10) and Côte d'Ivoire (106th, up 9). The highest-ranking African countries are South Africa (65), Seychelles (74), Morocco (78), Rwanda (80) and Kenya (86). Swaziland is ranked 129.

Leadership, in terms of digital adoption, comes from different groups of stakeholders. When looking at upward movers, which is a position this report suggests Swaziland seeks to achieve, it is clear that efforts are very much government-driven in Ethiopia and Côte d'Ivoire, while the business sector is the driver of change in South Africa. The key aspects of Swaziland's NRI ranking are set out in this part of the report to provide an objective view of Swaziland's ICT sector performance in a global context.

2.2.1 Regulatory and Politics

In terms of (i) the friendliness of the market and regulatory framework to support high levels of ICT uptake and the development of entrepreneurship and (ii) innovation to maximise the potential impact of ICT in boosting competitiveness and wellbeing, Swaziland ranks 122 out of 139 measured countries. Its peers in the region are Mozambique (120), South Africa (33) and African leader, Rwanda (27). In terms of similarly sized economies, Swaziland can be compared to Lesotho, which ranked 75 in 2016, well above Swaziland.

2.2.2 Infrastructure, Affordability, Skills

Swaziland ranked 129th globally in terms of the "degree of preparedness of (the) society to make good use of an affordable ICT infrastructure and digital content." Importantly this ranking was brought down by particularly low scores in affordability (133), i.e. mobile tariffs, fixed broadband tariffs, and fixed and broadband competition. Its peer countries in the SADC region are Zambia and Mozambique, while South Africa (69), Lesotho (108) and Rwanda (115) fared better. Swaziland's overall score in this index was buoyed by a relatively strong skills performance (99) which refers to the quality of the education system, math and science education and adult literacy, amongst others.

This strength in skills and education presents opportunities for Swaziland to design school connectivity and e-education strategies to increase ICT uptake and usage.

2.2.3 Usage

When evaluating the ability of individuals, government and business to use ICTs, Swaziland ranks 127th. Individual use (115) and business usage (116) are weak, however, government usage is particularly weak (131) and is amongst the lowest globally. This is an area of concern, in particular given the need for a strong e-government strategy to boost sector performance. Mobile and Internet users are however increasing, which is positive, though government usage remains fairly static. In the SADC region, Swaziland's performance is similar to Mozambique, Tanzania, Lesotho and Malawi.

2.2.4 Socio-economic Impact

This NRI indicator measures the broad economic and social impacts accruing from ICT. Swaziland's score is 134, similar to Malawi in the region. Lesotho ranks 125th, Rwanda 55th, and South Africa 93rd. This indicates that Swaziland has the potential to significantly improve its performance, which has been declining over the past years, Internet access in schools ranks 131, and impact of ICTs on access to basic services ranks 125th.

2.3 CONCLUSION AND FINDINGS

Swaziland's NRI performance is a useful, comparative reference point against which to consider the impact of ICTs on Swazi society. The 2016 ranking is consistent with the market constraint factors identified in Part 3, especially those relating to wholesale pricing and access, which will in turn impact retail pricing and quality of broadband. The NRI is also a tool that can be consistently used to measure progress going forward. As such, SCCOM should monitor the rankings annually and seek to understand how its regulatory actions may contribute to achieving an improvement in the NRI rankings over the next 3 years and beyond.

Political will, digital innovation, ICT skills development and ICT sector regulatory strength are key factors that will improve Swaziland's NRI performance. Swaziland can leverage its current strength in the area of ICT skills and improve on it, and also focus on increasing the affordability and usage of broadband by individuals, government and business. Specific regulatory action is required with respect to:

- reducing mobile and broadband pricing (increasing the "affordability" score),
- developing a national school connectivity plan, possibly supported by an e-rate ('education rate') , as part of the universal service and access initiatives;
- directing universal service and access funds to appropriate projects that improve the country's ranking on "access to basic services" - a clear universal access and service strategy is needed in that regard.

- In addition, SCCOM and the Ministry should be exemplary and lead the charge to increase government usage and enhance the leadership role of government in ICTs (improving the “usage” scores)

3. PART 3: BASELINE TELECOMMUNICATION SECTOR REPORT

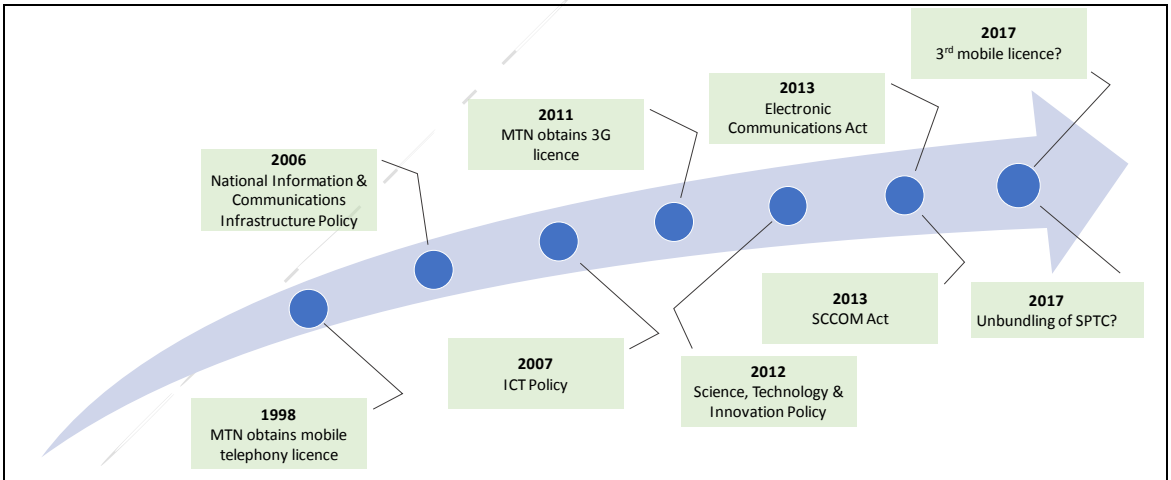
3.1 TELECOMMUNICATION REGULATORY ENVIRONMENT

3.1.1 Legislation

While little doubt remains about the critical role played by broadband for sustainable economic development, it is also recognised that there are a number of ways to obtain widespread and economically accessible diffusion of such networks. The trend of liberalisation of telecommunication markets that occurred in the 1990s and early 2000's throughout many markets in Africa represented a shift from a logic based on the concept of natural monopoly (particularly in the fixed line environment) to a more market-driven approach. Such a shift created a strong focus on efficiency and economic regulation to foster the development of network infrastructures.

ICT market liberalisation in Swaziland has lagged behind most countries in Africa in general and in the SADC region in particular. The liberalisation of the Swazi telecommunications market began in earnest in 2013, with the passing of legislation providing the foundation for market reform and initiation of a number of processes to transform the market to make it more competitive and efficient. The regulatory timeline is presented in Figure 3 below.

Figure 3: Swaziland telecommunications sector regulatory timeline



Source: Africa Analysis & TeleGeography, 2016

The Swaziland Communications Commission is the newest regulator in the Southern African Development Community (SADC) and was established on the basis of the Swaziland Communications Commission Act No. 10 of 2013. It took over the market regulatory functions from SPTC in July 2013.

Telecommunications sector supervision falls within the competency of the Ministry of Information, Communications and Technology (MICT). SCCOM is responsible for regulating and supervising the operation of electronic communications networks and the provision of telecommunications services, including the regulation of data protection in electronic communications.

Key legislation forming the legal basis of the telecommunications sector in Swaziland is the Electronic Communications Act No. 9 of 2013, which, inter alia, defines the requirements for the operation of public and private electronic networks:

- The rights and obligations of the licensees
- Licensees with dominant market position
- Universal service obligations
- Radio frequency management and management of numbers.

Prior to this development, telecommunications operators did not require authorisation to operate in the market, but are now required to apply either for a general or an individual licence with SCCOM.

The main objective of the Electronic Communications Act is to establish the groundwork for further market liberalisation and the introduction of competition, including the privatisation of the Swaziland Posts and Telecommunications Corporation (SPTC), a corporate body established under Act No. 11 of 1983, which is wholly owned by the Government. The Act also provides SPTC with exclusive rights to establish, construct, maintain and operate the national telecommunications backbone infrastructure in the country. All other operators in the market are allowed to establish their own last mile infrastructure and interconnect to SPTC at rates regulated by SCCOM.

3.1.2 Policy

Development of the telecommunications sector and use of ICT for the development of Swaziland from a socio-economic perspective is guided by a number of government policies, as follows:

- National Information and Communications Infrastructure (NICI) Policy, 2006
- Swaziland ICT Policy, 2007
- Science, Innovation and Technology (SIT) Policy, finalised in 2012
- e-Government Strategy for Swaziland, 2013 to 2017

The National Development Strategy (NDS) of 1999 forms the basis of the NICI implementation plan for 2012 – 2016. No new policy or strategy has been developed since the NICI policy, whose NDS ended in 2016. This is an optimal time to review its implementation and update it. In addition, consideration should be given to preparing a Digital Transformation Policy for Swaziland (this would

combine the elements addressed in the old NICI Policy and the ICT Policy) to focus on broadband, universal service, and converged infrastructures for the telecommunications, broadcast and postal sectors, as well as digital services in the telecommunications, broadcast and postal sectors, including e-commerce and e-government. Such a new policy dispensation would provide a sound basis for more advanced sector regulation.

3.1.3 SCCOM Decisions and Regulations

Progress in implementing the various decisions and regulations has been slower than planned with the foundational sector regulations only published in the third quarter of 2016. These regulations include:

- Licensing Regulations, which support a converged telecoms licensing regime
- Consumer Protection Regulations
- Frequency Spectrum Regulations
- Facilities Leasing Regulations
- Interconnection Regulations
- Quality of Service Regulations
- Cryptography Regulations
- Domain Name Regulations
- Universal Service and Access Regulations

3.2 TELECOMMUNICATION MARKET STRUCTURE, ITS STRENGTHS AND WEAKNESSES, AND REGULATORY REQUIREMENTS

3.2.1 Fixed Line Market

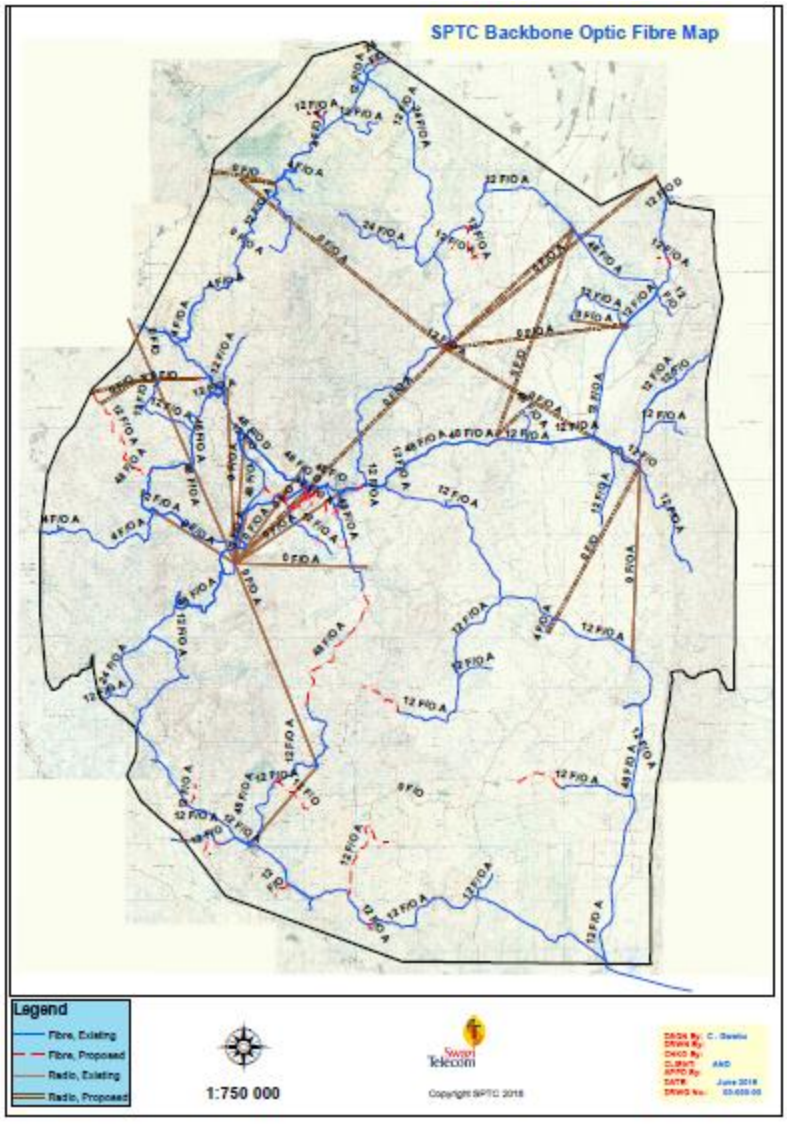
The incumbent state-owned fixed line operator is SPTC, which has begun to undergo a process of unbundling. The first step was establishment of an independent market regulatory authority (SCCOM) in 2013. Currently, in 2017, the postal services are being unbundled from the SPTC structure, while the telecommunications arm of the company will be separated into a wholesale operator and a retail service provider, whereby the wholesale operator will own the underlying telecoms infrastructure and deliver wholesale products and services to all retail service providers in the market on an equitable basis.

SPTC completed the digitisation of its network in 2011. It has been also upgrading its telecommunications backbone in the country to a next generation network (NGN) based on fibre optic infrastructure. This has resulted in a significant improvement in the available capacity, which can support delivery of high speed broadband services and growth in data consumption. However,

based on the interviews held, some of the service providers in the market claim that SPTC is not taking advantage of this ability, with much of the available capacity being idle.

SPTC's national backbone is presented in the graphic in Figure 4 below, indicating existing (drawn in blue) and proposed (drawn in red dashed lines) fibre routes, as well as existing and proposed microwave (radio) routes (drawn in brown).

Figure 4: SPTC national backbone

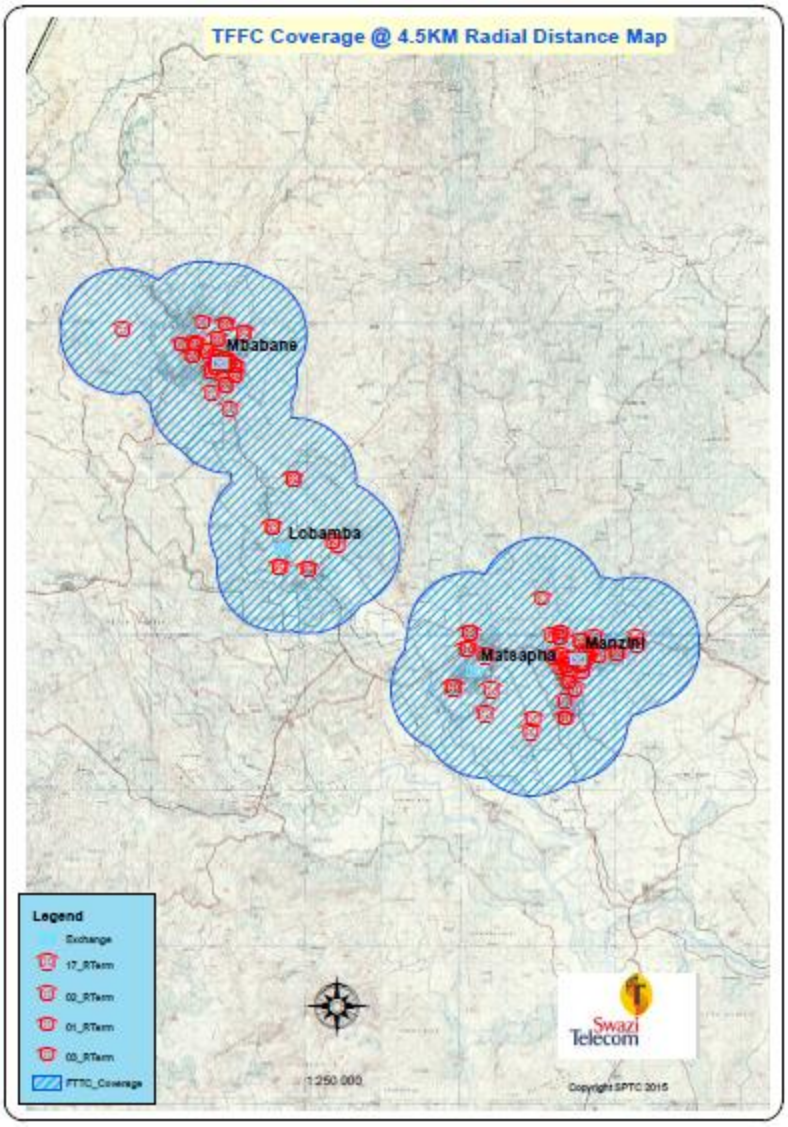


Source: SPTC (2016)

SPTC (Swazi Telecom) offers a range of fixed line services, catering to various market segments – business, residential, government, as well as wholesale services to ISPs. To date, SPTC has focused its deployment of access fibre services in the Mbabane-Manzini corridor area, where the

highest demand (and potential demand) for fibre-based services occurs. SPTC is considering expanding its FTTx coverage area in the future to other main cities and towns in the country. The current coverage area is provided in Figure 5 below.

Figure 5: SPTC access fibre coverage



Source: SPTC (2016)

A list of service categories versus customer market segments is provided in Figure 6 below. SPTC provides local, national and international services.

Figure 6: SPTC service categories versus customer segments

Technology	Customers / Services			
	Residential	**Business**	**Government**	**Wholesale**
POTS	Voice (payphones)	Voice	voice	
ISDN (BRI & PRI)	Voice internet/data	Voice internet/data	voice internet/data	
ADSL	internet/data	internet/data	internet/data	
ATM (copper cable)		leased lines	leased lines	leased lines bandwidth
Microwave (radio)		leased lines	leased lines	leased lines bandwidth
Fibre optic cable		leased lines internet/data	leased lines internet/data	leased lines bandwidth
Other	Hosting Wi-Fi hot spots	Hosting PBX managed services	hosting PBX managed services	hosting
Source: SPTC, ITU, TeleGeography, Africa Analysis works, 2016				

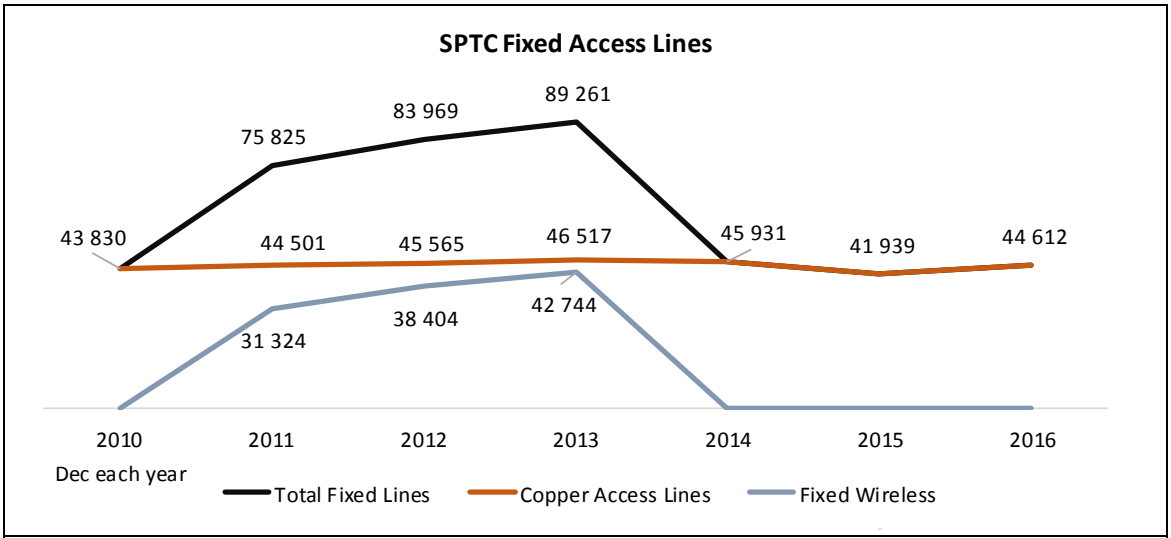
In 2011, SPTC introduced a CDMA EV-DO fixed wireless service (WiLL), but was forced to terminate this service a year later, due to a legal challenge from MTN Swaziland.[10] The introduction of the WiLL FixedFone / Lunyazi service resulted in relatively good growth of connected telephone lines within a short period of time. However, discontinuation of the service saw a decline in SPTC's subscriber numbers. SPTC plans to reinstate this fixed wireless service once it has completed its divestment in MTN Swaziland and is legally allowed to offer such services, since the EV-DO infrastructure is already in place.[11]

The fixed access line market growth has stagnated over the past few years, although 2016 saw some growth. This is presented in the following graphic in Figure 7.

[10] MTN claimed that the fixed wireless telephones were being physically moved around within the coverage area to take advantage of the low call tariffs, thus acting as nomadic (limited mobility) devices. This was illegal as SPTC was not allowed to offer either mobile or nomadic services, and presented significant competitive threat to MTN Swaziland.

[11] Despite currently not offering the fixed wireless services, SPTC continues to advertise it on its website and provides pricing for these services.

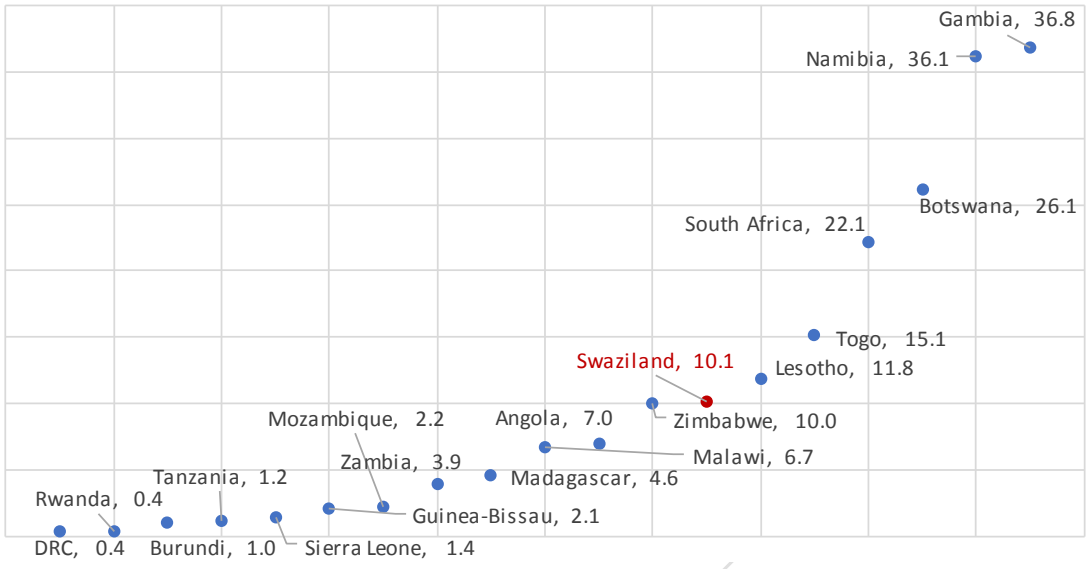
Figure 7: SPTC fixed access line growth



Source: SPTC (2016); ITU (2016); TeleGeography (2016); Africa Analysis (2016)

In 2016, SPTC had a capacity of 118 819 access lines (up 63% from 2015). Of these, 38% were connected lines. SPTC went on a drive to provide more line capacity at its exchanges, but the growth in capacity was not matched by growth in the number of lines connected. At the end of 2015, Swaziland had a fixed line household penetration of 10%. Although low in general, it does compare favourably to many of the SADC countries and the smaller nation-states peer group in Africa. However, it does trail behind Botswana and Namibia – two other small nation-states in Southern Africa, see Figure 8 below. The number of public payphones provided by SPTC has been reduced by more than 50% over the past ten years. The small fixed line market is most likely the result of growing mobile telephony proliferation in the country.

Figure 8: Comparative fixed line household penetration



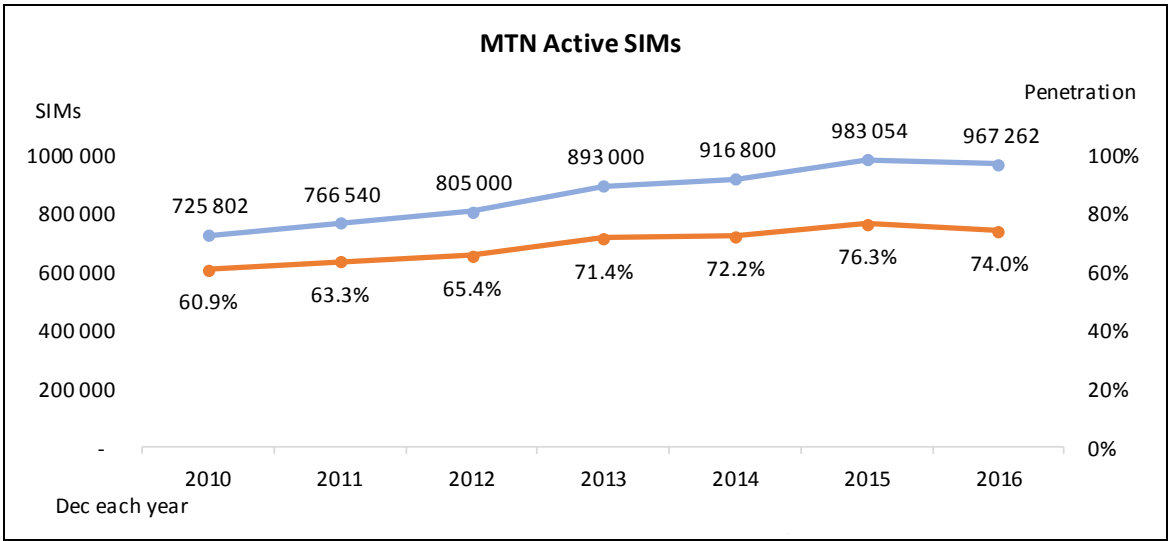
Note: The more affluent Indian Ocean island states were excluded as outliers due to their high penetration levels – Mauritius (111.3%), Seychelles (108.1%) and Réunion (95.1%)

Source: TeleGeography, Africa Analysis, 2016

3.2.2 Mobile Market

The mobile market in Swaziland remains a *de facto* monopoly, despite MTN Swaziland's 10-year exclusivity period ending in 2008. A new entrant, Swazi Mobile has recently been licensed, in March 2017, and is expected to be operational by the third quarter of 2017. The *de facto* mobile monopoly, coupled with the poor performance of the incumbent fixed line operator in terms of sale of fixed line services, has contributed to MTN's success in the Swazi market. Between 2010 and 2016 (estimate), MTN grew at a CAGR of 4.9%. The operator's growth over the past six years is presented in Figure 9.

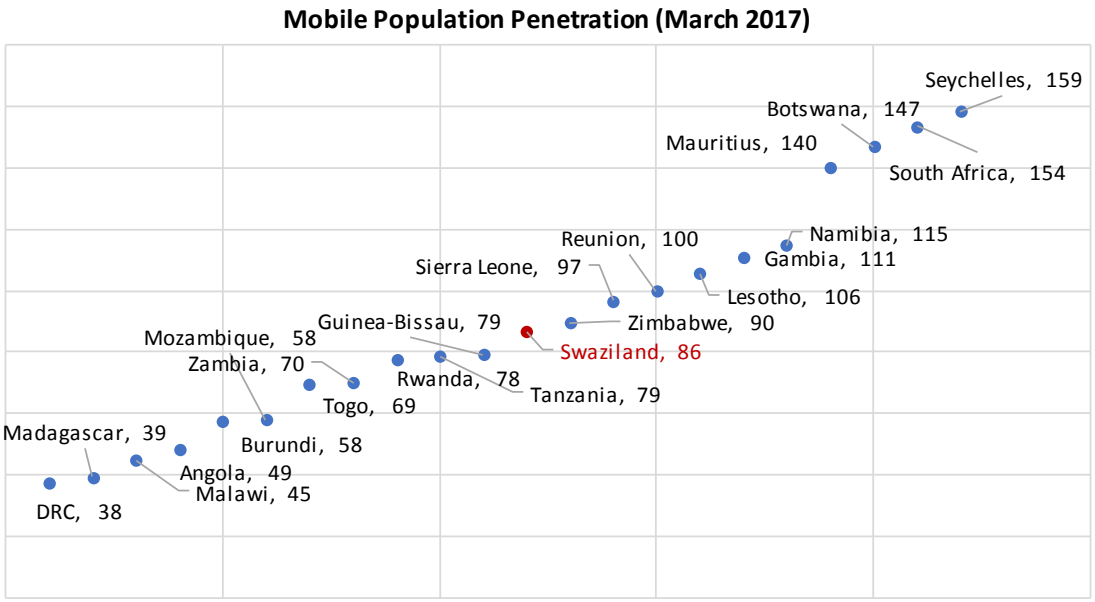
Figure 9: MTN SIM card growth and population penetration



Source: MTN, ITU, TeleGeography, Africa Analysis works, 2016

Compared to a peer group of countries in terms of mobile population penetration – the SADC region and some of the other smaller nation-states in Africa – Swaziland compares favourably (see Figure 10 below). However, when compared to its Southern African small nation-state peers (Botswana, Lesotho and Namibia), Swaziland trails behind, see Figure 10 below.

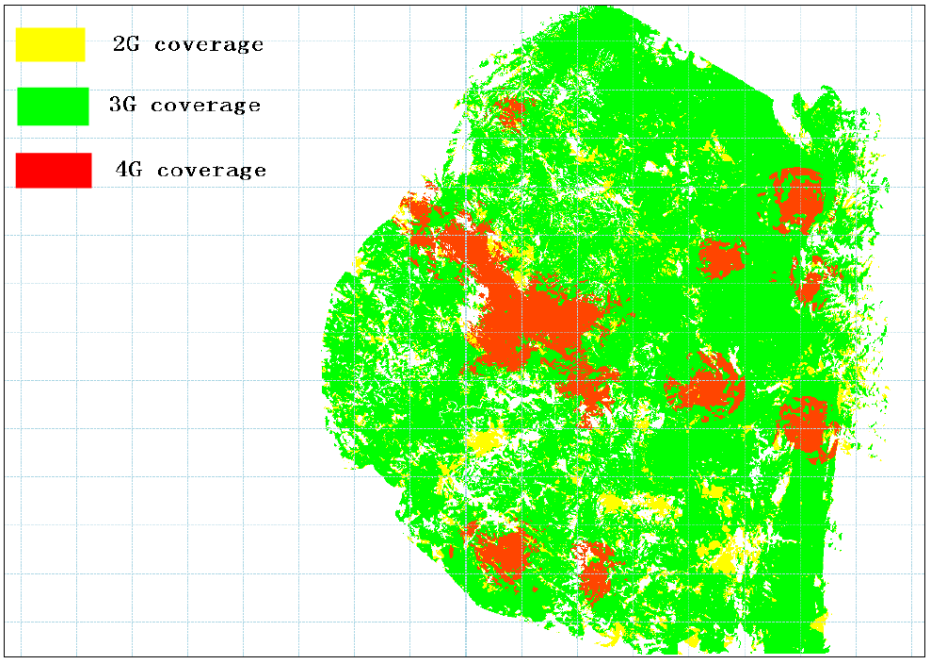
Figure 10: Comparative mobile population penetration



Source: TeleGeography (2016); Africa Analysis (2016)

MTN launched its initial operations in Swaziland in 1998 with a 2G (GSM) network, followed by the launch of 3G (a mobile data network) in 2011, subsequently followed by the launch of 4G services (high-speed mobile broadband) in August 2016. The coverage areas are illustrated in Figure 11 below.

Figure 11: MTN Swaziland coverage



Source: MTN (2016)

MTN has indicated that as it continues to deploy networks, its focus will be on the expansion of the 3G and 4G networks. MTN offers a range of basic voice and data services, which are becoming enhanced and expanded as MTN continues to deploy subsequent networks. Broadly, MTN's products and services offered in the market consist of:

- Voice – pre-paid and post-paid
- Internet and data (data bundles)
- Messaging – SMS and MMS
- A range of value added services
- MTN Mobile Money

Currently, there are no regulations governing MVNOs in Swaziland and no MVNOs exist, although they can be licensed under General Electronic Network Services licences. Given the structure of the market and the level of its maturity, the market may not yet be ready for MVNOs, particularly with the impending entry of a new full service mobile network operator (MNO), Swazi Mobile, licensed in the first quarter (Q1) of 2017 and scheduled to launch commercial operations in the third quarter (Q3) of 2017.

The mobile market is likely to become more competitive in the future, with the presence of MTN Swaziland and Swazi Mobile. Furthermore, SPTC's licence is technology-neutral and thus authorises it to provide mobile services. In practice, it will only be able to provide mobile services once it has divested from MTN Swaziland. Whether it opts to offer fixed wireless services or full mobility services is not yet known.

3.2.3 Internet and Broadband Market

Broadband in Swaziland is defined as a minimum of 2 Mbps downlink speed, which is aligned with the definition across many African countries, but lower than most developed nations. Some comparative universal broadband definitions include:

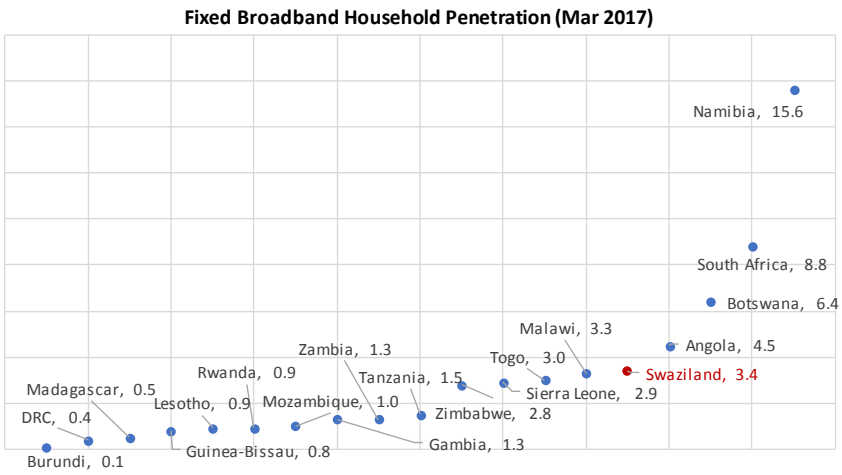
- Kenya – 40 Mbps in urban areas and 5 Mbps in rural areas by 2017 (set in 2013)
- Australia – 100 Mbps available to 93% of homes, schools, and businesses by 2018
- Finland – 100 Mbps connections available to every household by 2016
- EU's "Digital Agenda for Europe" – all Europeans to have access to connections with speeds of at least 30 Mbps by 2020, with 50% or more of households having access to speeds in excess of 100 Mbps
- Sweden – 40% of households and businesses having access to 100 Mbps connections by 2015, and 90% by 2020
- United States – minimum downlink speeds increased in 2015 from 4 Mbps to 25 Mbps, and the minimum uplink speed from 1 Mbps to 3 Mbps.

Operators in Swaziland have to set the minimum of 2 Mbps as the standard for providing internet access. The internet market in Swaziland is very small, with only approximately 3 500 domains registered. The Swazi broadband market consists of both fixed line (wireline and wireless) and mobile broadband (3G and 4G) connections. In Q4 2016, the fixed broadband market counted approximately 13 768 active connections, of which ADSL accounted for around 77% and wireless connections (mainly long-range Wi-Fi) for approximately 15%. The remainder of the market consists of leased lines supplied by SPTC to corporates and to the ISPs on a wholesale basis, and resold by some of the ISPs. Although the lowest in terms of number of connections, leased lines generate by far the highest APRUs (revenue per connection).[12]

[12] Information based on data provided by SPTC and ISPs in interviews held as part of the study process, combined with Africa Analysis market analysis.

In the mobile broadband space, there were an estimated 280 000 3G and almost 130 000 4G service subscribers as at March 2017[13], with the proviso that quality of 3G services may be varied and not always deliver true broadband experience (i.e., the Swazi minimum 2 Mbps). In terms of fixed broadband, in March 2017, Swaziland had a fixed broadband household penetration of just 3.4%.[14] Dial-up services continue to be provided (at a fee of E35 per month for a copper line) as not all internet users are interested in adopting broadband services. Although Swaziland's fixed broadband household penetration is very low, it does compare favourably to many of the SADC countries and the smaller nation-states peer group in Africa. However, it also trails behind Botswana and Namibia (significantly) – two other small nation-states in Southern Africa. Swaziland's comparative position in terms of broadband penetration is illustrated in Figure 12 below.

Figure 12: Comparative fixed broadband household penetration



Note: The more affluent Indian Ocean island states were excluded as outliers due to their high penetration levels – Réunion (76.5%), Seychelles (77.5%) and Mauritius (58.1%)

Source: TeleGeography, Africa Analysis works, 2017

There are currently six active ISPs in Swaziland, all of whom resell SPTC's network services:

- Swazi.net (part of SPTC)
- Government Computer Services – broadband products provided by Swazi.net / SPTC
- Real Image – the largest private sector ISP, reselling ADSL services, leased line services and wireless (Wi-Fi) connectivity / internet services, as well as VAS

[13] TeleGeography

[14] TeleGeography

- Posix – mainly resells leased lines provisioned by SPTC to corporate clients
- Touch-IT – provides mainly wireless (Wi-Fi) connectivity / internet services and has begun to resell ADSL services
- Computronics – sells mainly computers and provides a limited range of IT / value added services; provision of internet services is only an “additional” service for some of its customers.

In September 2016, the Commission awarded six new ISP licences, not all of which have become operational as yet. Issuing of ISP licenses is one method of increasing retail competition in the fixed line and data markets. This competitive environment will be further enhanced with the structural separation of SPTC into wholesale and retail operations as intended by the legal and regulatory process, whereby the SPTC wholesale operations will be mandated to treat all downstream ISPs on an equitable basis in terms of product and service provision.

3.2.4 Internet Exchange Point

The Swaziland Internet Exchange Point (IXP) was set up in 2004 to drive down connectivity costs. Real Image, Posix and Africa Online were the peering ISPs, but the traffic levels through the IXP remained low. The second IXP was established in 2014 with support from the African Internet Exchange Systems (AXIS). This project was endorsed by the African Union and implemented by the Internet Society in collaboration with the MICT and a number of local ISPs, including SPTC and MTN, as peering partners. However, the IXP is not yet operational. It was relocated to new premises and at the time that the research was conducted, needed to be activated. One of the challenges are relatively high rates from interconnect links supplied by SPTC (which previously provided links free of charge). Discussions to resolve this impasse were on-going at the time of the study.

3.2.5 Data Centre / Cloud Services

There is currently a limited market for data centre (DC) based services and cloud services in Swaziland.

- SPTC provides DC-based IT services, which are focused mainly on hosting web sites, colocation and disaster recovery (DR) services.
- Posix runs its own public cloud at its DC, which sits on the SPTC IP backbone.
- Real Image provides DR services.

The small size of this market may be more reflective of high prices charged for Internet / connectivity than of the potential demand for such services in the market. Particularly in the SME and consumer markets, the uptake of cloud / DC-based IT services could be greater if Internet prices were lower

than they currently are. Apparently, mainly the younger generation is interested in cloud services as far as the consumer market is concerned (according to interviewed market participants).

3.2.6 e-Commerce

e-Commerce comprises commercial transactions and services conducted using electronic communications processes and facilities, especially the Internet. Within that broad definition, there are three categories of interest (as outlined below). e-Commerce consists of trade in both physical and virtual goods. The nature of suppliers and recipients of such goods and services is important and there are three categories that are of consequence: individual consumers, businesses and governments, whose usage is measured by the World Economic Forum's NRI (Sub-index C in which Swaziland ranked 127 out of 139 countries measured). The activities of individual consumers, businesses and governments leads to the following well-known categories of e-commerce:

- **Business-to-consumer (B2C)** e-commerce involves direct business transactions between individual consumers and supplying companies, whether within a country or between countries, such as the purchase of books, or booking tickets online. This is the most well-known type of e-commerce relationship.
- **Business-to-business (B2B) e-commerce**, links businesses to each other and enables commercial and administrative transactions to be conducted over private telecommunications circuits, or over the public Internet. B2B e-commerce is the widespread realisation of Electronic Data Interchange (EDI), an effective application of ICT that has been in existence for many years, but is still restricted to a few large companies because of its cost and proprietary nature.
- **Government-to-consumer (G2C) and government-to-business (G2B)** e-commerce. These categories reflect similar transactions to B2C and B2B e- commerce. The difference is that government agencies are involved, whether to enable individual citizens to apply for national documents or submit income tax returns electronically (G2C); or to enable businesses to access procurement documents for goods and services, submit quotations (G2B). This category of e-commerce is especially important in the African context, including in Swaziland, because of the relatively large role that government plays in such economies and the move to make government a central player in increasing the uptake and usage of ICTs.

The e-commerce market in Swaziland is very small, with mainly commercial banks offering e-commerce services. It is difficult to measure the size and value of the Swazi e-commerce market given the reliance of Swazi consumers on credit cards issued in South Africa, and delivery from South Africa. Thus, although Swazi consumers are the beneficiaries, the country does not play a

role in the value chain. Factors limiting the use of e-commerce services are the low level of access to credit cards among the population and limited access to Internet facilities.

The development of e-government services is key to encouraging e-commerce uptake. For instance, municipalities do not provide the option of paying municipal bills online. e-Government is dealt with in greater detail in Part 6 of this report.

3.3 IDENTIFIED MARKET CONSTRAINT FACTORS

A number of competitive market aspects emerged during discussions with stakeholders who broadly identified constraints arise from two main factors:

- Efficiency in delivering wholesale services by SPTC due to its monopolistic position and potential operational inefficiencies; and
- Predatory wholesale pricing and price discrimination between SPTC group companies / units and other (competing) service providers in the market.

They key issues raised are discussed in Section 6.1 to Section 6.6 below. It should be noted that a Pricing Study is being conducted in parallel with the Baseline Study wherein analysis of current wholesale and retail pricing will be conducted. The empirical data on pricing is not included in this report.

3.3.1 Price of Wholesale Services

High prices of wholesale services provided by SPTC to other (retail) operators / service provider's results in higher than necessary input costs, which in turn translates into high retail prices for many ICT products and services. This depresses demand for and usage of ICT products and services in the market. SPTC is able to charge high wholesale prices due to its monopoly position in key segments of the telecommunications market, including international connectivity, national long-haul network infrastructure, metropolitan network infrastructure, and the ADSL access network.

Moreover, Swazi.net (the SPTC internet company) is treated as part of the SPTC group and does not pay wholesale prices to SPTC. This lowers Swazi. Net's cost of retail service provision, which allows the ISP to be more price-competitive than the independent ISPs.[15]

SPTC has a monopoly on infrastructure, but does not have monopoly on bandwidth / data, which can be purchased by ISPs from other providers, legally bypassing the SPTC IP gateway. However,

[15] Stakeholder Interview

to discourage this practice, it is alleged that SPTC has increased the pricing of the infrastructure it provides (interconnection links) to make it uneconomical for third party ISPs to bypass SPTC. ISPs estimate that up to 90% of their input costs in the provision of Internet / data services are accounted for by the cost of bandwidth.

A recent wholesale price reduction of approximately 50% (fifty percent) to ISPs and 20% (twenty) to 50% (fifty percent) to MTN should flow through to retail pricing. SPTC has undertaken to reduce wholesale leased line and dedicated optic fibre pricing to MTN and the ISPs and importantly to introduce a standard rate. This is captured in their 1 April 2017 rate card lodged with the Commission. This should result in a reduction of retail pricing for internet access and remove wholesale price discrimination, thus increasing competition.

3.3.2 ADSL Services

SPTC owns the ADSL network and sells ADSL services (line rental and data) to ISPs on a wholesale basis for resale to their customers. According to the ISPs a number of problems arise from alleged anti-competitive behaviour by SPTC, as follows:

- High wholesale pricing of backhaul connectivity (bandwidth) provided to the ISPs by SPTC forces ISPs to apply high contention ratios on ADSL services sold, which results in poor quality services to the end users.
- SPTC is slow in addressing line faults on lines resold by ISPs other than Swazi.net. It can take weeks to restore a line.
- When an ADSL connection is suspended or has a fault, SPTC reconnects the lines at a default 1 Mbps speed irrespective of what the line speed was in the past. This creates problems for the reseller ISPs in terms of provision of correct services and billing.

Furthermore, long distances of many households (and some businesses) from exchanges result either in inability to provide ADSL services to these households or in poor quality data services. The concerns raised by stakeholders in interviews have not been formally tested in terms of the competition or ICT regulator frameworks in Swaziland.

3.3.3 Provision of Efficient Backhaul Services

SPTC has deployed a NGN based on fibre optic cable infrastructure and provides fibre access links on a wholesale basis to other operators / service providers and to corporates. However, competitors to SPTC complain of constraints in sourcing fibre backhaul connectivity. This may be either a technical issue (speed at which SPTC is able to deploy fibre to a site) or a competitive issue, where SPTC treats its group companies / divisions (e.g., Swazi.net) and retail customers preferentially in

comparison to other service providers. Based on feedback from market stakeholders, ISPs can experience long delays in having requested fibre connected to a site or are denied fibre connectivity due to lack of product availability.

On the MTN network, all new 4G sites do not have fibre backhaul connected to them, only multiples of E1 links provided by SPTC. This to an extent, defeats the purpose of deploying a 4G network, as fibre backhaul is required to deliver true high-speed mobile broadband connectivity to customers off a 4G site.

3.3.4 Internet Exchange Point (IXP)

Currently, there is no functioning IXP in Swaziland. It was functioning in the past, but at the time of writing of this report, its premises were moved and negotiations are still ongoing with respect to peering and fees. Interconnection at the IXP is to be provided by SPTC but there is concern regarding the proposed high interconnection fees, although prices are to be reduced.

Currently, 70% of total traffic in Swaziland is international[16], which increases the costs of service and content provision. Greater local exchange of traffic would lower the costs of provision of such services.

3.3.5 International Connectivity

Swaziland relies on SEACOM and Telkom South Africa for international connectivity, which respondents indicated can be quite slow, with up to 3 000 ms latency. This results in poor quality of some of the services and is not conducive to running mission-critical applications, hosted off-shore, by businesses. Furthermore, according to ISPs, the SPTC IP gateway is problematic – the infrastructure is of very good quality, but lack of adequate skills (human factor) contributes to poor performance of the gateway. These factors are exacerbated since SPTC has an international gateway monopoly in terms of the ECA.

SPTC has established interconnectivity at the NAPAfrica IXP at Teraco in Johannesburg. This should enable faster international connectivity.

3.3.6 Lack of Access to Essential Facilities

Competitors to SPTC are not allowed to make use of the incumbent's essential infrastructure facilities, such as DSLAM cabinets on its ADSL network. ISPs are allowed to erect their own street-

[16] Data provided by SPTC in stakeholder interview.

side cabinets next to SPTC cabinets, however, apparently SPTC refuses to connect the two cabinets (SPTC and third party) with a fibre link.[17] This makes it difficult for the third party ISPs to backhaul their traffic efficiently.

3.4 CONCLUSIONS

The Swaziland telecommunications market has historically been, and to a large extent continues to be, constrained by a number of factors associated mainly with the monopolistic nature of the market and lack of true competition. This applies particularly to the fixed line market, where high domestic and international connectivity prices continue to hamper greater uptake of internet services. Although the mobile market is also a *de facto* monopoly at present, additional operators are set to be introduced in the near future, creating the basis for competition in the mobile market.

The building blocks for further market liberalisation and facilitation of more effective competition in various market segments were set in 2013 with the introduction of the Electronic Communications Act and the Swaziland Communications Commission Act. A number of initiatives are in progress, however, several market constraint factors need to be addressed to expedite market growth.

Apart from the expensive and sometimes difficult access to ICT products and services, further education as to the benefits of ICT for building a digital economy needs to take place in Swaziland. Many businesses and government departments still do not realise the benefits that ICT can generate for their operations.

[17] Based on feedback provided by the ISPs in stakeholder interviews.

4. PART 4: BASELINE POSTAL SECTOR REPORT

4.1 REGULATORY ENVIRONMENT

4.1.1 Legislation

Postal services are governed by the Swaziland Posts and Telecommunications Act No. 11 of 1983, which deals with postal service in Part IV and defines key postal terms, and the Swaziland Communications Commission Act (2013) which mandates the Commission (to regulate and license postal services. In terms of postal financial inclusion, the Swazi Financial Institutions Act, 2005 provides for the regulation of financial entities, including financial services provided by the postal sector and mobile money provided by mobile operators.

SPTC

The Swaziland Post is a department of the SPTC, a corporate body established under Act No. 11 of 1983, and is wholly owned by the Swazi Government. The Corporation is self-funding and is headed by a Managing Director who reports to a Board of Directors. The Corporation is supervised by the Ministry of Information, Communications and Technology (MICT). The Postal Division is headed by a General Manager and reports to the Managing Director of the Corporation.

The Swaziland Posts and Telecommunications Act gives SPTC exclusivity over postal services and provides in section 22 that:

> *22. (1) No letter, other than exempted letters, shall be conveyed by land, by water, or by air into or out of Swaziland, or delivered or distributed in Swaziland otherwise than by or through the Corporation.*
>
> *(2) For the purposes of this section exempted letters are:*
>
> *(a) letters carried privately and without hire, reward or other profit or advantage for receiving, carrying or delivering them;*
>
> *(b) letters solely concerning goods or other property sent by land, by water or by air, to be delivered together with the goods or property which such concern, without hire, reward or other profit or advantage for receiving, carrying or delivering them;*
>
> *Provided that such letters are open to inspection and have super scribed thereon the words "consignee's letter" or other words to that effect;*
>
> *(c) letters carried by any person in circumstances authorised by the Managing Director and subject to such conditions as he may impose.*

(3) In this section the expression "letters" means any written or printed communication conveying from one person to any other particular person information upon matters personal to such persons or information upon which it is intended that the recipient should reply, act or refrain from acting, but does not include any written or printed communication which is a newspaper or a periodical unless such newspaper or periodical is accompanied by any other communication.

In practice, Swazi Post is responsible for:

- acceptance and delivery of mail;
- money transfers;
- counter services;
- agency services.

The separation of Posts from Telecommunications was debated in 2010 – 2012 within the framework of economic adjustment programmes. Currently SPTC is undergoing a separation process – in relation to postal, the aim of structural separation would be to separate posts and telecoms and to create autonomous entities for the two businesses and ensure their viability through commercialisation and overall business and sector reforms.

4.1.2 Policy

There is no postal policy in place. However, universal service and access is a key imperative and SPTC / Swazi Post is required to provide universal postal services throughout the country. This requirement does not include value-added services such as EMS, e-mail, etc. According to the UPU, Swazi Post's universal postal service includes the acceptance, conveyance and delivery of postal items (domestic and international) as follows:

- correspondence items up to 2 kilogrammes.
- books, newspapers, periodicals.
- parcels up to 30 kilogrammes.
- supplementary services: registered, insured, recorded delivery, express services.
- money transfer, money order.
- telegrams, pension payments.

The levels of enforcement of the above are unclear. Furthermore, the obligations and definitions

need to be reviewed and if appropriate carried into a new SCCOM developed postal regulatory framework.

4.1.3 SCCOM Decisions and Regulations

In terms of regulation, the Commission is authorised by the Swaziland Communications Commission Act to regulate the postal services sector in Swaziland. The definition of "communications" in the Swaziland Communications Commission Act explicitly includes postal services. The term "postal services" in the Swaziland Communications Commission Act is defined with reference to Swaziland Posts and Telecommunications Corporation Act (1983), which provides that:

> *"postal services" means the services performed and facilities provided in connection with;*
>
> > *(a) the collection, transmission and delivery, whether by land, by water or by air from one place, whether within or without Swaziland, to another place, whether within or without Swaziland, of postal articles*
> >
> > *(b) the issue of postage stamps and the use of franking machine*
> >
> > *(c) the issue and payment of money orders for the remission of money through the Corporation.*

Given the inclusion of postal services in the definition of 'communications', they are included in the Commission's mandate to license, monitor, inspect, regulate and ensure general improvement and equitable distribution of communications services in the country.[18]

The Commission's function in relation to postal services is as follows[19]:

- Ensure that postal and courier operators provide sufficient, reliable and efficient services throughout the country.
- Ensure that the public post licensee is able to provide postal services at rates consistent with efficient and continuous service and financing viability.
- Promote development of postal systems and services in accordance with recognized international standards, practices and public demand.
- Processing of licence applications for postal and courier services operators.
- Manage postal codes and the national address system.
- Promote competition among postal and courier service providers.
- Monitor compliance with performance standards and codes of conduct in respect of postal and courier services.

[18] SCCOM
[19] SCCOM

- Act as arbitrator in conflicts involving operators or between operators and customers within the sector.
- Undertake regular inspections of the performance of all licensed operators.

4.2 POSTAL MARKET STRUCTURE, ITS STRENGTHS AND WEAKNESSES, AND REGULATORY REQUIREMENTS

The traditional postal sector can be divided into several complementary activities - collection, sorting, transportation and delivery. Final delivery accounts for the bulk of the costs of mail handling. [20] The economic evidence suggests that there may be a natural monopoly in final delivery, although this would need to be subject to a market review in Swaziland as it depends on a number of factors including mail volumes and frequency of delivery. Regardless, as indicated above, in law Swazi Post has exclusive rights over certain parts of the postal value chain; there is no natural or legal monopoly in express mail or parcel delivery, also known in Swaziland as "courier" services. This section looks at the postal value chain in competitive and monopoly areas.

4.2.1 Postal Infrastructure Market

Swazi Post is the operating division of SPTC responsible for the provision of all postal and allied services. It is the country´s prime mover of international and domestic business and private letters and written correspondence and parcels. In common with many other national postal authorities worldwide, it is a delivery agent for the Swaziland Government for social grants, pensions etc. In addition, Swazi Post provides retail services for a number of companies within Swaziland.

Swazi Post has a total of 44 retail outlets, comprising 36 main post offices and 8 agency post offices. There is a total of 40,450 post-boxes rented by customers to receive mail and 35 private bags, which are used by customers handling large volumes of mail. The post-boxes are collocated with post offices, but there are also 8 stand-alone post-box installations where customers receive mail. Swazi Post has a postal codes system used by around 40% of customers and, whilst there is no household delivery service, the postal codes aid the delivery of mail to a customer's nearest post office.

The courier services infrastructure is referred to in section 5 below.

[20] OECD, Promoting Competition in Postal Services, DAFFE/CLP(99)2

4.2.2 Postal Services Market (Reserved)

4.2.2.1 General

The traditional postal services are under the monopoly of the Swaziland Posts and Telecommunications Corporation / Swazi Post. The Swazi postal sector is therefore dominated by SPTC, which is the public post licensee with 33 major outlets and 69 agencies. At present, there is no licensing framework for the various sub-sectors of the postal sector, i.e. reserved / public post and unreserved / courier services.

Whilst, theoretically, the reserved postal services market is the exclusive domain of Swazi Post, in the absence of local definitions, it may be a matter of debate whether or not they are the only operator offering services in this field. The volume of letter post is generally declining across the globe, because of electronic substitution effects (e.g. email or SMS/messaging), rather than due to competition from other market players.

According to the UPU, although there is a reduction in volumes, letter post remains the largest revenue source for postal services globally, despite its decline. Conversely, possibly also due to the growth of the ICT sector and electronic communications, postal parcel volume, much of which is a result of e-commerce, has been increasing both domestically and internationally over the last decade.

The global trend in postal revenue is increased total revenue. In the previous decade (2001-2011) mail volumes doubled in Latin America, Europe and CIS and Arab countries, while more modest growth was seen in Africa, Asia-Pacific and industrialised countries.

4.2.2.2 Postal Volumes

Swazi Post is the principal provider of mail, parcels and related services. It also provides “hybrid mail” services[21]. However, it does not provide an Express Mail service, either for domestic or international dispatch, though it receives small numbers of international Express Mail items. It also does not provide a domestic delivery service for ordinary parcels. Business volumes for these services are set out in Tables 2 through 6 below:

[21] Hybrid mail is delivered using a combination of electronic and physical delivery. Usually, it involves digital data being transformed into physical letter items at distributed print centres located as close as possible to the final delivery addresses.

Table 2: Domestic letter-post volumes

	2012	2013	2014	2015	2016*	2017*	2018*
No of items handled	3,314,142	2,856,578	3,035,874	3,781,628	3,815,663	3,679524	3,577,420

*forecast volumes

Table 3: International letter-post volumes

	2012	2013	2014	2015	2016*	2017*	2018*
No of letters sent	485,895	1.797,705	1,052,374	1,144,110	1,093769	1,043,428	942,747
No of letters rec'vd	5,816,670	4,394,379	5,988,296	4,721,320	4,546,631	4,371,942	4,022,565

* forecast volumes

Table 4: Domestic hybrid mail volumes

	2012	2013	2014	2015	2016*	2017*	2018*
No of items handled	40,470	49,424	57,325	54,072	53,748	53,423	53,099

* forecast volumes

Table 5: International ordinary parcels post volumes

	2012	2013	2014	2015	2016*	2017*	2018*
No of international parcels dispatched	369	1,107	802	1,379	1,489	1,489	1,710
No of international parcels received	7,720	7,760	8,026	8,621	9,259	9,474	9,690

* forecast volumes

Table 6: Domestic newspaper service

	2012	2013	2014	2015	2016*	2017*	2018*
No of copies of newspapers	351,845	569,434	566,569	No Data	No Data	No Data	No Data

*forecast volumes

Present Swazi Post forecasts (shown in Table 3 above) indicate that both domestic and international letter-post services will reduce business volumes in the period up to end of 2018. Actual reductions in business are as follows:

- Domestic letter-post -6.2%
- International letter-post dispatched -14.00%
- International letter-post received -11.5%
- Hybrid mail is forecast to remain at broadly the same levels as at present (2016), although this represents around a 7% decrease on the volume of hybrid mail in 2014, the busiest year for this service.

The substitutes for the different postal products or services are typically “electronic communications substitutions”, such as the use of email or SMS. Research on the South African market has indicated that 80% of retail customers prefer to have their statements sent out in hard copy by post, rather than emailed or sent via text message. Therefore, while the electronic substitution effects are being experienced by the postal sector, this preference for hard copies received in the post may explain why the decline in mail volumes is not as dramatic as it could be, given the prevalence of email addresses and access to devices facilitating access to the internet.

4.2.2.3 International ordinary parcels

The forecast situation for international parcels services is more positive than for letter-post services, with a modest increase of 4% in parcels received from international originating points and a larger increase of 14.8% in the numbers of parcels dispatched from Swaziland to international destinations.

4.2.2.4 Revenues

Revenues for mail services over the last four years are shown in Table 7 below:

Table 7: Revenues for mail services 2011/12 to 2014/15

Product / service	2011/12	2012/13	2013/14	2014/15
International Mail In-payment	2,105,159	2,956,745	1,991,662	10,737,534
Bulk posting – international, domestic & hybrid	7,174,254	5,791,751	6,100,696	7,467,010

The very marked increase in international revenue (comprised of in-payments from other international postal operators for Swazi Post handling of their mail) for the 2014/15 year is the result of delayed payments of settlements from earlier years. This sort of delay can have a significant impact on the overall profitability and perceived performance of Swazi Post. It has been noted, from information on the UPU website[22], that Swazi Post is not a member of the Universal Postal Union's clearing system that manages international accounts settlements for postal operators. This is an electronic-submission based system that currently handles worldwide postal accounts to the value of around USD200 million annually. However, it may well be that the sums of money involved for Swazi Post settlements and the administration fees charged make such membership unattractive. However, membership should prevent delayed payments such as seen in 2014/15.

4.2.3 Courier Services Market (Unreserved)

4.2.3.1 General

This is the area where competition is most visible and encouraged. These products and services are typically value-added products such as courier services (implying door-to-door delivery coupled with speed of delivery). Swaziland has a number of courier companies, including Phutfumani Couriers & Freight – which is an operation unit of Swazi Post, together with international courier "brands" DHL International, Federal Express (FedEx) and a small number of stand-alone courier companies, some of which may be branches of South Africa-based companies. However, the lack

[22] http://www.upu.int/en/activities/upuclearing

of base data for the courier segment of the sector makes it difficult to assess how the future market may develop. Global indications are that, as on-line retail sites are increasingly used, so the associated courier market for delivery increases. The use of their own courier service by major retail sites, such as Amazon.com, may present a competitive challenge. However, in reality, it is a potential opportunity for Swazi Post and Phutfumani Couriers to seek early partnerships with on-line retailers to act as their delivery channel.

4.2.3.2 Phutfumani Couriers & Freight

Phutfumani Couriers & Freight are an operating unit within Swazi Post. They provide domestic and international courier and freight services, customs clearing and warehousing. Within Swaziland, they operate a same-day parcels delivery service and an overnight service to South Africa. They provide international services to all countries. The freight and associated customs clearance and warehousing services are a particularly valuable service and are unlikely to be easily replicated by either DHL or FedEx, both of which have a smaller presence in Swaziland in terms of service outlets / collection points.

4.2.3.3 Other Courier companies

Although the Swaziland Posts and Telecommunications Corporation has a significant market share in general mail services, it appears that private courier companies dominate what can be termed the courier business, although no legal or regulatory framework exists for courier services. Several private operators are present in the market including DHL, TNT, SkyNet, Movve Logistics, Interfreight (Pty) Ltd, Convergex Technologies, Speedy Overborder Couriers, Swazi Courier, XPS Express and Federal Express (FedEx). The presence of these courier companies shows the extent of liberalisation and intensity of competition in a growing economy. However, the scope of competition in the domestic and international services needs to be defined in the new regulatory framework.

As an example,

- DHL International is an operating division within the Deutsche Post Group, the privatised German Post Office. DHL has eleven collection points – one each in Mbabane, Ngwenya, Kwaluseni, Matsapha and seven in Manzini[23], through which document and parcel traffic is handled. DHL also provides some freight services, together with e-commerce and hybrid mail services.
- FedEx is an international courier company headquartered in the USA and appears to have two stations – Mbabane and Matsapha[24] through which document and parcels traffic are

[23] http://www.dhl.co.sz/en.html
[24] http://www.fedex.com/sz/contact/

handled. However, they may have a similar collection-point network to that used by DHL, but it has not been possible to establish this at the time of writing this report.

It has not been possible for the research team to contact the courier companies through their publicly available contact telephone numbers, nor have direct contact requests to SCCOM been successful. This could be partly due to the absence of a regulatory framework and clear reporting requirements on lines of accountability in the courier market. Thus, an evidence based market review is not possible.

4.2.4 Retail Services Market (non-postal)

Swazi Post provides, through its network of post offices and agency post offices, retail services to customers of the following companies:

- MTN
- Swaziland Electricity Company
- Swaziland Water Services Company
- Swazi Telecom
- Swazi Bank
- Swaziland Royal Insurance Corporation

The range of retail services provided through Swazi Post outlets includes mobile and landline airtime, funeral and life insurance, and payment of third-party bills for the utility companies. Services for Swazi Bank allow customers to open accounts, deposit, withdraw and transfer funds. These banking services are principally transacted using the bank's debit card system. In addition, on its own account, Swazi Post also provides postal order, money order and money transfer services. The "Sivinini" money transfer service is particularly focused on neighbouring countries and allows customers to transfer money at lower costs than those available through commercial money transfer systems.

It is quite common in emerging economies for franchised business retail services to be developed that mimic some of the retail activities of the National Postal Authorities. Typically, in the SADC region PostNet is the leader in such retail activities. There is one PostNet retail outlet situated in Ezulwini but it does not provide the full range of services (although it does act as a collection point for DHL International courier services) and neither competes with nor complements Swazi Post services.

The volume of transactions[25] for these retail services is as follows:

Table 4: Retail clients and transaction volumes

Retail Partner	Period	No of clients / Transaction volume
Swazi Bank	Monthly	1177 transactions
Liberty-Life Swaziland Life insurance		1147 clients
Metropolitan-Swazi Post Insurance for PO Box holders		97 clients
Sivinini Money Transfer	2015/2016	4552 transactions

In addition to third-party retail offerings, Swazi Post offers stationery, computer accessories and philatelic products through its retail outlets. It also hosts public access to internet services provided by Swazi Telecom.

4.2.5 Postal Financial Services Market

4.2.5.1 Financial services using postal infrastructure

Financial systems in many African countries include formal and informal segments such as savings clubs, associations and cooperatives, each with distinct clienteles.[26] The absence of commercial financial services in many areas (primarily rural areas) is driven in part by the reluctance of the formal financial sector to establish branches in areas perceived as having higher costs and higher risks. As a result, there is a high proportion of financially excluded people, which reflects a lack of access to and use of formal financial resources. At the same time, the African continent has one of the densest and longest-standing postal networks. The same is true for the SADC region in general, and Swaziland in particular.

Like many countries in the SADC region, Swaziland should consider leveraging its postal network infrastructure to offer postal financial services with the aim of diversifying Swazi Post's offerings in order to improve its financial sustainability and increase its role in Swaziland's financial inclusion strategies. Swazi Bank currently provides through Swazi Post the "Likusasa" group account

[25] Data provided by Swazi Post

designed to support community groups including churches, stokvels, and registered / unregistered community associations, with a minimum deposit of E200 per month. As need for larger and more diverse transactions emerges, there may be opportunities for Swazi Post to develop its financial services offerings with its banking and financial services partners, delivered through its retail outlets. There may also be opportunities to widen service offerings through new partnerships with micro-financing and other non-banking financial services and retail companies.

In terms of financial services, currently Swazi Post provides agency services for the Government of the Kingdom of Swaziland for social grants. This business amounts to:

Table 5: Social grants payments through Swazi Post

Government Agency	Number of beneficiaries
Social grants	56580
Young Heroes (NERCHA) payments	393
National Maize Corporation collections	114 per month

Apart from the usual post order / money order services traditionally provided by National Postal Authorities, financial inclusion to bottom-of-the-pyramid customers and those located in peri-urban and rural areas could be enhanced by the availability of the “Sivinini” money-transfer service, (referred to in 2.3 above) run by Swazi Post in collaboration with a number of SADC postal administrations, together with the Swazi Bank retail banking services. However, it does not, for example, have relationships with money transfer services such as Western Union and MoneyGram, which in many countries provide extensive international inward and outward money transfer services. Western Union has only one outlet in Swaziland, located in the main shopping mall in Mbabane. There are some indications from internet sources[27] that there are 10 outlets for MoneyGram in the country, but this needs to be verified further with the financial regulatory authorities.

The burgeoning use of mobile money services by cell phone customers across Africa and beyond suggests that such services are likely to be popular in Swaziland. The single cell phone operator, MTN Swaziland provides a mobile money service which enables customers to send and receive money, pay bills as well as purchase products and airtime anywhere in Swaziland using their cell phone. The ease of access to services and the relatively high upper limit for transactions (E4,000)

[27] https://finservice.in/moneygram/swaziland

may make mobile money a preferred option for domestic financial transactions, but international services may rely more upon Swazi Post services and those of the commercial banks.

4.2.5.2 Swazi Post's Role in e-Commerce and e-Government

Table 6: e-Commerce and e-government parcel deliveries

Relation	Demand	Parcel profile	Delivery	Sellers	Consumers	Distribution	Negotiation
B2B	Regular – scheduled and predictable demand	Grouped items	Non-express	One	Known	Concentrated	Flexible pricing Case-by-case negotiations are common
B2C	Irregular	Small packages	Express and non-express	One	Unknown	Diffuse	Non-flexible pricing
B2E	Irregular	Small packages	Express	One	Known	Concentrated	Non-flexible pricing
C2C	Irregular	Small packages	Express and non-express	Many	Unknown	Diffuse	Flexible pricing Online auctions and face-to-face negotiations are optional
B2G	Regular	Small packages	Express and non-express	Many	Known	Concentrated	Non-flexible pricing, usually decided by e-procurement
G2B	Regular	Small packages	Express	One	Known	Diffuse	Non-flexible pricing
G2C	Irregular	Small packages	Express	One	Known	Diffuse	Non-flexible pricing
G2G	Irregular	Grouped items	Non-express	One	Known	Concentrated	Non-flexible pricing

Given the post offices' need to find new opportunities to expand its revenue streams in a digital economy and taking into account the e-commerce and e-government models discussed in Part 3 (Telecoms), there is a need to specifically consider the role of the post office in e-commerce. Each type of e-commerce relationship demands different logistics (and thus a different response by the post office) to meet the needs and expectations of the parties involved in the e-commerce process. It is important to note that e-commerce covers not only private sector and retail services, but also extends to e-government services, where increasingly government's interactions with citizens are accessed through electronic means rather than face-to-face. The post office with its network of retail / service outlets can be a very effective agent for government in providing citizen access to services, particularly outside the major urban centres where government offices are often absent.

However, a fundamental issue that needs to be addressed to enable effective e-commerce is that of resources. The resource issues include the need to ensure that all post office outlets are

adequately provided with the necessary facilities including digital communications infrastructure and equipment, access to uninterrupted power supply, as well as trained staff to operate the e-commerce services and support the customer interface. This availability of trained staff is particularly important outside the main urban areas where customers may be less familiar with e-commerce. Stimulation of customer-usage of e-commerce / e-government can be achieved by a mix of marketing and education of customers regarding the advantages to be gained, in terms of less time required to transact business and consequent lower overall cost.

4.2.6 COMPETITION

4.2.6.1 Domestic and international postal services

The present lack of comparative data from representative private courier companies in Swaziland and from Phutfumani Couriers, does not permit us to compare the private companies with Swazi Post and Phutfumani Couriers. However, if courier data is received as a result of our latest requests, we will be in a position to give a view on the competitive environment.

The indications available from the Universal Postal Union (UPU) through their website[28], is that in Africa for the period 2013 – 2014, letter post volumes have decreased by 23.4% although during a similar period, parcel post traffic has increased by 3.1% for domestic and 5.7% for international traffic. For Swaziland, traffic volumes have not decreased so markedly and there is a modest increase in outgoing international parcels post. It is difficult, however, to reach any real conclusions about whether the loss of letter and parcels traffic is due to competition from private courier companies, particularly as they appear to have few outlets in Swaziland.

4.2.6.2 Retail services (non-postal)

The present range of retail services offered by Swazi Post is wide, encompassing fixed and mobile airtime sales, sale of funeral and life insurance, provision of Swazi Bank retail banking services, collection of payments for third-party utility and related services, together with stationery and philatelic services. It seems unlikely that in the foreseeable future that any retail chain will mimic Swazi Post's retail offering. A potential competitor would be PostNet for postal-related services, but with only one outlet in The Gables in Ezulwini that seems an unlikely prospect.

4.2.6.3 Postal financial inclusion

Swazi Post's provision of a range of retail banking and financial remittance services, including money transfer and postal / money orders, offers quite a wide range of financial services, many of which may be attractive to unbanked, bottom-of-the-pyramid, customers. The potential for

[28] http://www.upu.int/en/resources.html

competition appears to come from mobile money services, currently provided by MTN. This may be extended if the third licensed operator also offers a mobile money service. It is difficult to assess the potential competition as we do not, at present, have data from MTN on the value / transaction levels of their mobile money service. However, recognising the ease of access available to mobile cell phone customers of money transfer to / from their handset, and the relatively small cost of such transfers, may mean that competition already exists in the domestic money transfer market. This can be established once we have the relevant operating data from MTN.

4.3 IDENTIFIED MARKET CONSTRAINT FACTORS

4.3.1 Change in postal traffic patterns

In a recent survey of ten countries in Europe, it was found that postal volumes are reducing by around 2.5% per year. However, there seem to be differences between letter and parcels traffic, with the latter increasing due to the increased use of on-line retailing.[29] This difference appears to be present in Swazi Post's volumes as can be seen in 10.1.1 and 10.1.2 below.

The speed and ease of access of electronic communications will always present a significant challenge to the traditional postal services. However, the corollary may well be that the use of online ordering systems for goods may increase the volume of parcel traffic both domestically and internationally. It also the case, as in many countries in the SADC region, that the lack of a household postal delivery service may inhibit the use of postal services and the cost of introduction of such a service would significantly outweigh revenues, making a case for regulatory attention to creating a competitive market for and licensing both public and private courier services.

4.4 CONCLUSIONS

The review of the postal sector within the broader ICT sector as depicted above, suggests that there is likely to be little significant growth in the postal sector for Swazi Post. However, as suggested above, it is appropriate for Swazi Post to constantly review their service offerings, seeking to maximise the potential available from their presence either as full post offices or postal agencies throughout the country. Without a closer examination of the present Swazi Post human resources profile, it is difficult to determine if the company has adequate skills and potential to grow without any major increase in staffing costs. However, a review of skills needs and availability is a vital part of progressing the postal sector business.

[29] Study for BIPT, the Belgian Institute for Postal Services and Telecommunications, p 50 – WIK-Consult 2014

The courier sector may continue to grow but, as technology impacts particularly on their international operations, there may be some consolidation in the market. SCCOM will need to keep this under review with a view to ensuring no diminishing of customer-service standards.

Although small in comparison to the telecommunications services segment of the ICT sector, the postal segment still demands attention and it is important for the Commission to acquire and develop the capacity to broadly regulate postal services. This should be initiated at the earliest opportunity with the creation of a database of postal and courier operators and, through the survey recommended in 11 above, the determination of customers' needs and expectations from the postal and courier services sector.

5. PART 5: BASELINE BROADCASTING SECTOR REPORT

5.1 REGULATORY ENVIRONMENT

5.1.1 Legislation

5.1.1.1 Electronic Communications Act and SCCOM Act

The broadcasting sector is regulated by the Swaziland Communications Commission. Broadcasting constitutes a part of communication services. In terms of the Swaziland Communications Act, 2013, the jurisdiction of SCCOM allows it to exercise specific regulatory powers and functions.

The establishment of the Swaziland Communications Commission enables the liberalisation of the sector which has historically been a challenge considering the absence of an independent agency to license and regulate the sector. As is the case in many countries, government control has placed restrictions on broadcasting, especially on content, however, the establishment of a regulator enables the creation of a broadcasting environment that is plural, diverse, independent and able to realise the public right to information.

The regulator operates in three areas: (1) broadcast licensing, (2) broadcast content regulation, and (3) network distribution. In terms of content, the primary responsibility of the Commission is to uphold professional standards stipulated in the license conditions and to ensure the content conditions of the license are upheld. It is the responsibility of the regulator to clearly stipulate and enforce a code of conduct to deal with election processes, advertising and sponsorship, local content, national events, and children's programming[30]. With respect to licensing, the regulator is expected to publish a tender for the award of radio-frequency spectrum and issue licenses according to criteria that will ensure professionalism, independence and diversity. The licensing should be fair and transparent to all, ensuring diverse and rightful ownership. It is the responsibility of the regulator to ensure that network distribution is carried out in an equitable manner with no discrimination. The regulator also has the responsibility to monitor quality of service from broadcasters and network distributors; a negative change in quality could be breech of licensing conditions and as such the regulator must act accordingly.

[30] Media Institute of Southern Africa

5.1.1.2 The Swaziland Broadcasting Bill

The primary objective of the Broadcasting Bill is to provide for the establishment of the Swaziland Broadcasting Corporation, which will serve as the National Public Broadcaster for the Kingdom. This Corporation will come to existence in the amalgamation of Swazi TV and the Swaziland Broadcasting and Information Services; which will then form the public broadcasters of the Kingdom of Swaziland.

The secondary objective is to provide for the regulation of the broadcasting sector by the Swaziland Communications Commission. [31] The Bill sets out the areas of regulation, and it will be the Commission's role to issue the regulations which details the areas of regulation covered in the Bill.

Lastly, although it deals only very lightly with competition matters, ownership and investment, the Bill addresses the contribution of the broadcasting sector to the socio-economic development. This is in light of the role of broadcasting to inform, educate and facilitate social cohesion. It acknowledges that licensing is a means to ensure that these goals are met.

Key provisions of the Bill include:

1. **Market Entry:** According to the Broadcasting Bill, there are no limitations to the number of broadcasting licenses that SCCOM is permitted to issue. Currently, there are no 'issued' broadcasting licenses from the Commission. The Broadcasting Bill establishes the parameters for licensing regulation as well as the establishment of a broadcasting corporation. The Bill provides for continue service provision for the existing broadcasters, meaning that the licenses would not necessarily be applied for but rather granted however license terms and conditions would now apply as well license fees. The Bill encourages a sense of continuity in the broadcasting sector by carrying over licenses into the new regulatory regime. Though the intentions of the Bill are seemingly of a smooth transition, this leaves the Commission in a compromised position. The sector has a subscription service that operates in the country without a license, the suggested transition by the Bill may lead to undesired interpretation and consequence. This can be rectified through a robust and transparent licensing framework that will cover subscription services, new and existing. Multichoice should obtain a license for broadcasting in Swaziland, and be accountable as a player in the sector. The Commission should draft regulations for subscription broadcasting, and subsequently open the market to all subscription broadcasters wishing to participate in the Swazi market. Section 6 subsection (2) of the Broadcasting Bill provides for the four classes within which the Commission may license; Public, Commercial, Community and subscription broadcasting.

[31] The Swaziland Broadcasting Bill of 2016

2. **Technology Neutrality:** Technology neutrality refers to the type of technology service providers are permitted to use in carrying out the broadcasting services. As the "neutrality" suggests in the term, a technology neutral license would allow for service providers to make use of any technology it deemed suitable for broadcasting purposes. The Broadcasting Bill makes no specific pronouncement with regards to the type of technology that licenses are to be issued with. The only mention of this is with regards to the Broadcasting Corporation of Swaziland; where the Bill states that the Corporation is not restricted to any one technology for the use of its broadcasting services. It would be in the interest of the Communications Commission, and the Swaziland Broadcasting sector if the Commission applied the same approach to all licenses issued. Section 5(9) of the Licensing Regulations as prescribed by the Electronic Communications Act (2013), clearly states that all individual licenses issued shall be issued on a technologically neutral basis. This provision in the Bill and the Electronic Communications Act provide for the perfect legislative background on which to premise futuristic regulations that anticipate changes in technology, mediums of broadcasting and the nature in which broadcasting is consumed. Regulations such as IPTV regulations and broadcasting transmission services will facilitate a forward-looking broadcasting sector.

3. **Legal Status and Investment:** Both the Electronic Communications Act Licensing Regulations and the Broadcasting Bill make mention of ownership and requirements for local economic development through ownership. Though the Broadcasting Bill does not clearly stipulate the ownership parameters, it mentions in section 17(8) b that licenses shall not be granted to entities or people who are not Swazi nationals or resident of the country. The Bill makes no provision of an ownership split, nor does it mention what percentage is considered fair ownership and contribution to economic empowerment – presumably that is to be addressed through regulation.

4. **Local Content:** The Broadcasting Bill makes clear the responsibility of the Communications Commission to uphold and regulate local content development in all licensees.[32] Though the Bill provides for and protects the development of local content, the Commission needs to be mindful of the size of the country and the extent of the broadcasting and local content sector. A strict and extensive enforcement of this provision in regulations could possibly be a barrier to entry for new broadcasters. One way of getting around this is by implementing a phased approach to local content requirements; a gradual increase in local content requirements over the years of the license tenure or which each subsequent renewal. This will allow broadcasters to gain

[32] Part II section 4(d) and (e)

traction in audience/listenership, accumulate revenues to fund the content development or sourcing, and to innovate the various ways of local content delivery.

5.1.2 Policy

5.1.2.1 NICI Policy

The National Information and Communication Infrastructure Policy and Plan (NICI Policy) harnesses the development goals of the Kingdom's development strategies (Smart Programme on Economic Empowerment and Development; Poverty Reduction Strategy and Action Plan), aligns them with ICT based objectives and means, and in turn aims to achieve accelerated growth through the deployment of ICT within the economy.

Chapter 2 (section 2.7) of the NICI Policy addresses media in the Kingdom of Swaziland. The policy recognises the imperative for free and fair media including broadcasting and print media; the policy refers to media in a generic form and does not specify whether this includes or refers to digital media. The Policy expresses the government's commitment to the promotion of freedom of the press as an essential ingredient for good governance[33]. The media has an essential role to play in the development of an information society, as well as spreading awareness and interest in the important role and benefits of the information revolution. The Policy recognises the potential role of broadcasting media in Swaziland to reach most of the population, assisting in the rapid dissemination of information. However, the NICI Policy identified some significant shortcomings in broadcasting as follows:

- Converting the state-owned broadcasters i.e. Swaziland Broadcasting and Information Services and the Swazi TV to public broadcasters regulated by the independent regulator.
- Increasing diversity in ownership, encouraging a broad spectrum of broadcasting ownership such as community radio/TV, privately owned radio, pay TV and free-to-air television.
- Local content development
- Adequate allocation of resources, and fair access to infrastructure to ensure that the full benefits of ICT are enjoyed by all.

Although mentioned in the NICI Policy, at this point, nearing the end of its first implementation cycle, none of the above have been achieved. A formal review of the NICI Policy and its impact needs to be conducted, however, the focus on its implementation has been primarily telecoms, and broadcasting implementation has lagged behind.

[33] NICI Policy, Section 2.7 Media, p57

5.1.2.2 Digital Migration Policy

The international analogue switch over ("ASO") date to digital broadcasting was June 2015, however, many countries, including Swaziland, did not meet this deadline. Swaziland revised the deadline based on its digital migration roadmap, and set a new cut-off date of 31st December 2016, which date was met according to government. The digital migration policy, drafted in March 2013, sets out the primary objectives in the governments support of digital migration as follows:

- **Bridging the digital divide:** access to information, stimulation of innovation, creating and stimulating a knowledge economy.
- **Universal access and service:** access to information, and national broadcasting services.
- **Increasing access to information:** more channels, diversity of broadcasting catering to all spheres of the population and all areas of the nation
- **Development of local content:** the development of content that is relevant. Increase the pace of generating digital content to meet the demand of the broadcasting sector, this can be achieved through digital content generation hubs.
- **Efficient use of resources:** Digital broadcasting enables utilisation of the scarce frequency spectrum far more efficiently than analogue technologies. Research shows that digital migration will free up valuable radio frequency spectrum that is currently being used for analogue television.

Having met the due date of digital switch over, Swaziland is now faced with the reality of implementing digital broadcasting. The Commission has sited problems with content, more specifically local content, and the uptake of the digital broadcasting services amongst consumers and broadcasters alike.

The policy made provision for the establishment of a National Broadcasting Infrastructure Agency (NBIA) which would be responsible for managing and developing the national broadcasting infrastructure in the country. The NBIA was to provide broadcasting signal distribution to public, commercial and community broadcasters. These services were to be provided on a non-preferential and non-discriminatory basis. It was the responsibility of the regulatory authority to draft regulations concerning the migration and the establishment and running of the NBIA. The following technical standards were approved:

- DVB-T2 for broadcasting digital terrestrial television in Swaziland
- DVB-S for broadcasting digital satellite television in Swaziland
- MPEG-4 as the compression standard for Swaziland Digital terrestrial television rollout

- DVB-H for mobile terrestrial television broadcasting in Swaziland[34].

The set top boxes proved to be a topic of contention, as the policy could not stipulate the details and specification that would guide the sourcing of these boxes. The policy instead provides for a technical committee, which includes the Swaziland Standards Authority, to develop appropriate standards for the boxes. It is unclear whether this committee was established and what standards were developed to aid the roll out of DTT. These standards have not come into effect as they have not been carried through into any regulations.

5.1.3 SCCOM Decisions and Regulations

There are no broadcasting specific regulations in place. That being the case, considering this section of the report and the subsequent findings, the following broadcasting regulations which form the basis of most broadcasting environments may be considered going forward:

Broadcasting Regulations	
Advertising, infomercial and programme sponsorship	Digital Migration
Broadcasting Code of Conduct	Local Content
Internet Protocol Television	Ownership and Control
Must Carry	Prescribed annual contributions of licenses
Broadcasting transmission services	Subscription television
Terrestrial broadcast frequency plan	

The table above is not an exhaustive list of regulations, it is adapted from the South African regulator, ICASA, and provides a comprehensive understanding of the regulatory framework that is required to grow and sustain an effective and competitive broadcasting sector. Some of the regulations listed above will form part of Swaziland's roadmap in 'regulating for the future', ensuring that the Commission fosters a futuristic regulatory environment that allows for growth and technological advancement.

[34] Digital Migration Policy - 2013

5.2 BROADCAST MARKET, ITS STRENGTHS AND WEAKNESSES AND REGULATORY REQUIREMENTS

Broadcasting markets are usually measured by advertising revenue, and audience research. In the absence of data in the Swazi market, a qualitative analysis of the market is presented in this report.

5.2.1 Television

The television broadcasting market in Swaziland is characterised by two main broadcasters, namely Swazi TV and Channel Swazi. Swaziland also has one subscription satellite service that operates in the country.

Swazi TV is a public broadcaster that is run by the Swaziland Television Authority, and is owned solely by the government of Swaziland. Swazi TV broadcasts in English, SiSwati and IsiZulu. It is unclear just how far the coverage reach is for Swazi TV, the 2016 OMD Media Facts report could not conclusively quantify the coverage nor the audience numbers for Swazi TV[35].

Channel Swazi is a privately owned, free to air television station. The station broadcasts in English and SiSwati[36]. Television has a lower penetration, as compared to radio, in Swaziland, where 70% of the population live in rural areas; furthermore, people living in the peripheries of the country struggle to access local terrestrial signals and more often tune into South African Free-to-air stations[37].

The last broadcaster in the Swaziland broadcasting market is South Africa's Multichoice, which is a subscription broadcaster that broadcasts its South African offering of DSTV on a pay TV model. DSTV is a multi-channel subscription satellite broadcaster.

Both Swazi TV and Channel Swazi are licensed broadcasters, their licenses were issued by the Swaziland Television Authority, and have not been converted into SCCOM issued licenses. Multichoice is not licensed per se, but operates based on an agreement reached with the Ministry of Information Communication and Technology.

5.2.2 Radio

The radio broadcasting market in Swaziland consists of two state-owned radio broadcasting stations and one privately owned station. The two state owned broadcasters form the Swaziland Broadcasting and Information Services, which broadcasts SBIS 1(SiSwati) SBIS 2 (English) and the

[35] OMD Media Facts Report 2016
[36] OMD Media Facts Report 2016
[37] African Media Barometer: Swaziland 2014. FesMedia. http://www.fesmedia-africa.org/uploads/media/AMB_Swaziland_2014.pdf

information services (broadcasting in SiSwati and English). The state-owned radio broadcasters have an audience reach of 98% of the country[38].

The private broadcaster is a religious radio station called Voice of the Church (VOC), it is the only domestic radio alternative to the state broadcasters. The Voice of the Church was initially funded by the evangelical distributor Trans World Radio and is now owned by the Conference of Swazi Churches. Voice of the Church station covers about 75% of the country.

The government, as early on as 2014, had shown a willingness and concerted effort through the former regulator SPTC to open the air waves to commercial and community radio stations; however, no licenses have yet been issued[39]. In July 2013, the Community Radio Network (CRN) was established to lobby for community radio stations in the country. Its members include representatives of the existing Voice of the Church, as well as the following stations which would like to be established: Lubombo, Matsanjeni, Ngwempisi, the Council of Churches, and the University of Swaziland. Occasionally when there is a local event such as a graduation or a cultural event, community broadcasters are granted 3-day broadcasting licenses for the specific event. The Commission is the licensing authority, and these 'short term' licenses are granted based on a simple request from the community broadcasters, there does not seem to be a formal application.

There are no authoritative and up-to-date viewership or listenership figures available for the various broadcasters, thus there is also no indication of market share amongst the active broadcasters. Various reports suggest that there is a significant amount of cross boarder viewership of South African Television broadcasters, especially the free-to-air channels.

5.2.3 Regional Benchmarks

Given the dearth of information on the Swazi radio and TV markets, the research team assessed similar countries in the region (i.e. small population, influence of South African media, advertisers and stations) to assess the opportunities for Swaziland's broadcasting market following further market liberalisation. The selected markets are Botswana and Namibia. The regional comparison is useful as the broadcasting market structure in the region is fairly similar across the countries - the market is typically characterised by free to air and subscription television and radio broadcasting, as well as community radio.

[38] African Media Barometer: Swaziland 2014. FesMedia. http://www.fesmedia-africa.org/uploads/media/AMB_Swaziland_2014.pdf
[39] African Media Barometer: Swaziland 2014. FesMedia. http://www.fesmedia-africa.org/uploads/media/AMB_Swaziland_2014.pdf

5.2.4 Botswana and Namibia Benchmark

Botswana	
Population	The total population of Botswana is 2 262,485 (2015), and is currently growing by 1.898 per annum[40].
Literacy Rate	The adult literacy rate, Population 15+yrs (both sexes), is 88.22% of the total population[41].
State of the Media	One of Africa's stable countries. It is the continents longest running multiparty democracy. It is relatively free of corruption and has a good human rights record. The constitution provides for freedom of expression and the government generally respects this right[42].
Television	80% of households have a television in the country (20)[43]. There is one national broadcaster, NTV broadcasts general news and entertainment. NTV is government owned, and is the public broadcaster for the nation. The Regional broadcasters in Botswana in E-Botswana which is owned by the South African based E-TV channel. Mutli-choice also extends its subscription satellite service to Botswana on its DSTV platform[44].
Radio	There are 87 radio per 100 households in Botswana[45]. These households have access to five radio stations which are broadcast within the country. There are two national state owned broadcasters; Radio Botswana 1 & 2. There are three regional broadcasters which are all privately owned; GABZ FM, Yarona FM, and Duma FM.

Botswana is a sparsely populated country with a population of 2, 262million inhabitants; most of this population is concentrated in the eastern part of the country. Botswana's economy has shown growth over the years, albeit declining growth, which could be owing to, the countries struggle to diversify away from its diamonds mining dependence.

Research shows that radio is still a popular medium of broadcasting in the country, interestingly people with disabilities (mostly visual impaired) listened more to radio than they watched television. Amongst the radio broadcasters, the two government owned broadcasters were the

[40] World Bank – Data Bank Indicators. http://data.worldbank.org/country/botswana
[41] http://data.worldbank.org/indicator/SE.ADT.LITR.ZS?locations=BW
[42] http://www.omd.co.za/media_facts/OMD%20low.pdf
[43] Research ICT Africa. Understanding what is happening in ICT in Botswana. 2013
[44] http://www.omd.co.za/media_facts/OMD%20low.pdf
[45] Research ICT Africa. Understanding what is happening in ICT in Botswana. 2013.

dominant players, with Duma FM being dominant player of the private stations. Foreign radio stations played a minimum role in the Botswana Market, with Motsweding (South African) being the only viable foreign radio station[46].

A look at the audience viewership and listenership broken down according to LSMs, shows that in LSM 2-4 listen to radio more than they watch television. In respect to television broadcasting, foreign broadcasters seemed to dominate the market, with SABC 1,2 &3 and DSTV dominating the market. SABC then BTV had a greater market share. Respondents in LSM 6 -10 watched television more than they listened to radio[47].

Namibia	
Population	The total population of Namibia is 2 458,830 million (2015), and is currently growing at a rate of 2.3% (2015)[48]
Literacy Rate	The adult literacy rate, population 15+yrs (both sexes) is 90.8% of the total population[49].
State of Media	Namibia boats a mature and stable broadcasting and media industry, that caters for diversity amongst the audience[50].
Television	51.3% of the population view television on a weekly basis[51]. The Namibian television market has 1 state owned station, two privately owned free-to-air stations and one international satellite subscription service. The Namibian Broadcasting Corporation is the government owned broadcaster, One Africa TV and E-Botswana are the privately owned free-to-air stations, and Multichoice extends its subscription service on the DSTV platform.
Radio	66.2% of the population listen to the radio on a weekly basis. Namibia has a robust radio broadcasting sector with 10 national radio stations, 10 regional/language community broadcasters, and 7 privately owned radio stations. NBC National Radio is the state owned national broadcaster. Radio Energy, Radio Wave, 99FM, Hit Radio, KOSMOS, Omulunga, and Fresh FM are all privately owned stations respectively.

[46] National Broadcasting Board. Audience Survey for the Broadcasting sector in Botswana. (2013)
[47] National Broadcasting Board. Audience Survey for the Broadcasting sector in Botswana. (2013).
[48] World Bank – Data Bank Indicators. http://data.worldbank.org/indicator/SP.POP.GROW?locations=NA
[49] World Bank – Data Bank Indicators. http://data.worldbank.org/indicator/SE.ADT.LITR.ZS?locations=NA
[50] http://www.omd.co.za/media_facts/OMD%20low.pdf
[51] http://www.omd.co.za/media_facts/OMD%20low.pdf

Namibia showcases a robust radio broadcasting sector with over 10 community broadcasters. These broadcasters service either regional (geographic) communities, cultural/language communities, communities of interest, or religious groups. According to the 2015 Annual report from CRAN, there may soon be no need to differentiate between community and commercial radio as both types of licenses compete for the same space in advertising revenue and the same license fee applies to both categories[52]. The only difference is the company registration, where commercial broadcasters are 'for profit' entities, while community broadcasters are 'non-profit entities'. This seemingly small differentiator, is the what sustains the three-tier broadcasting model that operates in Namibia. The consideration of the blurred differentiating facts between the two broadcasters is an interesting consideration for Swaziland. The three-tier broadcasting model, the regulations and subsequent licensing framework need to clearly distinguish between commercial broadcasting and community broadcasting.

5.2.5 Analysis of Swaziland with reference to benchmarks

Based on the countries profiled in the regional market structure, Swaziland's broadcasting sector trails behind in diversity and independence. The geographic location and size of the country also means that the country has a significant amount of spill over broadcasting which reaches a significant amount of the population. Botswana faces a similar problem with spill over from South Africa with free-to-air channels, however research shows that local broadcasters are still the preferred stations due to local content. SCCOM can facilitate the up-take, and stimulate a sustainable broadcasting sector in Swaziland through local content conditions on licenses, and the regulation of local content. This regulatory measure has proved to be beneficial to Botswana, and has sustained a favoured local broadcasting sector despite having significant over-spill. The Communications Regulatory Authority of Namibia (CRAN), regulates only the issuance of broadcasting licenses and the provision of broadcasting content. To ensure that the broadcasting content serves the interest of the public, CRAN has drafted a broadcasting code which ensures independent broadcasting regulation of service, access to services, and content[53]. SCCOM may consider a hybrid of both Botswana's approach and Namibia's by placing license condition around local content requirements, and thereafter a broadcasting code which will independently regulate the service, access and content going forward.

[52] Communications Regulatory Authority of Namibia 2015 Annual Report.
[53] Communications Regulatory Authority of Namibia 2014 Annual Report.

5.3 COMPETITION

The absence of a licensing framework in the broadcasting has resulted in little competition in the sector and few opportunities for market entry. This takes place against the global reality of technological change in the broadcasting, or audio-visual, market. The broadcasting sector has been undergoing significant technological and structural changes - convergence has made content available on new platforms and on various wireless portable devices. At the same time, technological change has impacted on regulation and conditions of competition.

The penetration of new technologies and the dynamic effects of convergence are changing the way that consumers access and view audio-visual content. Nowadays, it can be provided via multiple platforms: analogue or digital terrestrial broadcasts, satellite, cable or Internet Protocol (IP) and Over-the-Top (OTT) television. [54]

The development of Swaziland's broadcasting sector, will, going forward need to be considered alongside the developments in the broadband sphere. Combined with significant broadband penetration, increases in bandwidth and the proliferation of digital devices, this will make it possible for different devices to use the same networks and allow for the provision by operators of 'triple play' and other bundled services.

Technological developments affecting the broadcasting sector will impact the conditions of competition including: the range and quality of services; the underlying costs; the extent of barriers to entry (new technologies provide new means by which the market is contested); the ability of customers to switch suppliers; and pricing mechanisms (technological developments allow for provision of pay per view services). Therefore, digitisation will generally reduce barriers to entry. [55]

5.4 IDENTIFIED MARKET CONSTRAINT FACTORS

The market structure of the Swaziland broadcasting sector as set out in section 1, in comparison to the structure seen in other regional countries illustrates some significant gaps. Market constraints in the Swaziland broadcasting sector focus around the following main themes in the short term:

[54] OECD, 2013
[55] OECD, 2013

5.4.1 Absence of Regulations

In the absence of clear, fair and transparent regulations to guide the sector, growth cannot happen. Licensing regulations setting out the market structure and means to enter the market have not been established; nor have supporting regulations on license fees, local content, ownership and control, advertising, infomercial and programme sponsorship, and “must carry” amongst others.

Regulations that facilitate licensing, universal access and the development of local content need to be in place for growth to occur.

5.4.2 Lack of competition

As the broadcasting sector stands in Swaziland now, there is insufficient competition, unlicensed broadcasting, limited coverage, broadcasting exclusion of certain citizens, and a poor local content capacity. The Commission intends to draft and table a clear, fair and equitable licensing framework that will guide the licensing of more players in the respective tiers of broadcasting, i.e. community radio and TV, commercial radio and TV, and subscription TV.

In the digital future, when entry barriers to digital broadcasting are lowered, it is likely that competition will increase; however, access to end user devices will remain a challenge until they become affordable for the average Swazi (i.e. digital radios, digital TVs, set top boxes).

5.4.3 Frequency planning

The conclusion of the digital migration automatically kick starts the provision of the communications and frequency spectrum regulations. The Commission will lead the sector in accounting for progress and clearly stating the roadmap to be followed going forward.

5.4.4 Broadcasting funding models

5.4.4.1 Advertising

As part of the enabling regulations, advertising, infomercials and sponsorships need to be clearly regulated and a model for each broadcasting tier needs to be drafted. Commercial and Community broadcasters rely heavily on an advertising revenue stream; this can be abused if not correctly and

clearly regulated, or it be a barrier to entry if over regulated. A balance in the regulations that fosters a conducive environment for transparent revenue flows is ideal.

5.4.4.2 General Funding

Closely related to the revenue streams in advertising are the funding models that differentiate each tier of broadcasting. The current broadcasting market structure in Swaziland is primarily state broadcasting, save for the two privately owned broadcasters in television and radio respectively.

A clear licensing framework is needed to differentiate the state broadcasting from public broadcasting, and to facilitate a shift of the existing state broadcasters towards public broadcasting. Furthermore, once the Broadcasting Bill is finalised, clearly defined funding and operating models for each tier will clarify the broadcasting system in the country, and identify tiers that need further stimulation such as community broadcasting.

5.5 CONCLUSIONS

In conclusion, broadcasting is undoubtedly a powerful medium of reaching the Swazi population. Global trends show that convergence and the emergence of new business model that not only require new technological platforms but also innovative ways of delivering broadcasting service. Many countries are fast embracing digital ecosystem on multiple platforms with seamless integration. Content is fast becoming the most valuable commodity of trade and those who own content are thriving.

The market constraints of the Swaziland market focus mainly on the missing regulations and the impact the presence of these regulations will have on the broadcasting sector. The Commission is charged with creating a free, fair, competitive and transparent broadcasting sector through licensing frameworks, clear funding models and revenue stream prescription’s.

6. PART 6: BASELINE E-GOVERNMENT REPORT

6.1 REGULATORY ENVIRONMENT

The e-Government Strategy for Swaziland: 2013 to 2017 issued by the Office of the Prime Minister, Government of the Kingdom of Swaziland addresses both "e" (electronic) and "m" (mobile) government initiatives and sets out the framework for e-government and m-government for the country.[56] The strategy recognises that:

> *"In most countries, the government is the largest 'business 'and 'economic' player in society. Policy decisions taken by a government have a ripple effect on a country's growth and development. Specifically with regard to e-Government, a decision by a government to adopt a strategy to implement e-Government should be seen beyond the confines of a reform of the way public institutions deliver service and are held accountable. e-Government provides the platform and impetus to secure further economic and social development by positioning it as a key propellant to achieve an information society and an information economy. "*

The strategy defines e-/m-government as "the delivery of government services through ICT using the desktop as well as mobile technologies to simplify and enhance the access and delivery of information and services" from a number of parties ranging from G2C to G2B to G2G, and adding government to intermediaries, (G2I), and tourists (G2T).

Table 9: e-Government scenarios, Swaziland e-government Strategy

Government to Citizens (G2C)	Any service that is provided to citizens such as, for example, renewal of a driving license.
Government to Business (G2B)	Any service that is provided to a business entity such as, for example, on-line download of government tenders.
Government to Intermediaries (G2I)	Any service that is provided to private sector entities or NGOs that are carrying out functions on behalf of Government – for example private pharmacies distributing government free entitlement medical supplies.

[56] http://www.gov.sz/images/edoc.pdf

Government to Tourists (G2T)	Any service that is provided to tourists who visit Swaziland – for example which sites to see, how to get there, when they are open, etc.
Government to Government (including its employees) (G2G)	Any service that is provided by one government entity to another such as the requirement for a birth certificate for a particular application to be processed which birth certificate can be retrieved on line by the requesting department or any service that is provided by government to its employees such as the filling of a vacation form on line.

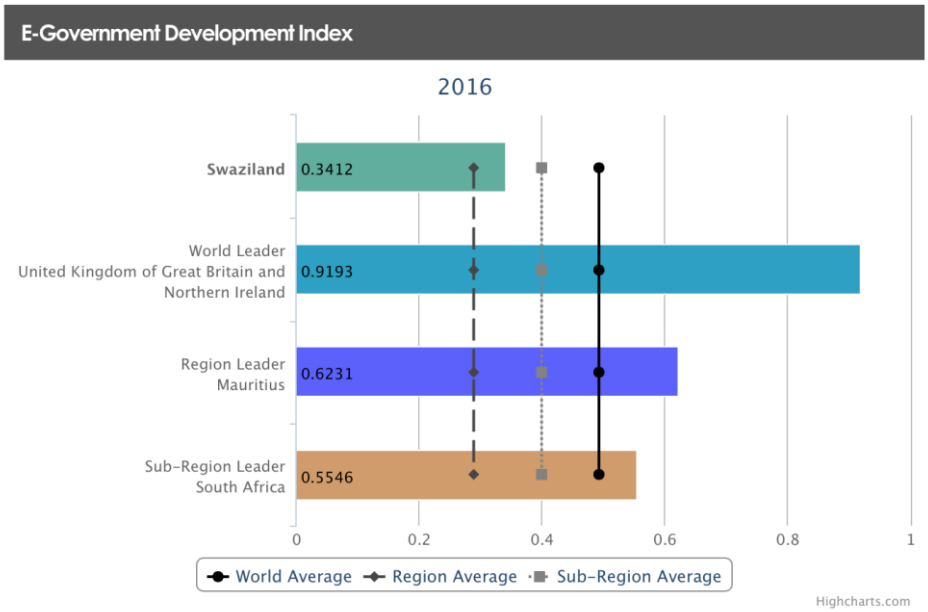
Source: Government of Swaziland (2013)

6.2 E-GOVERNMENT MARKET, STRENGTHS AND WEAKNESSES AND REGULATORY REQUIREMENTS

In terms of the strategy, which is supported by an Operational Framework, by the end of the period of the strategy (2017), Swaziland's ranking in terms of the UN E–Government Development Index will improve to below 100. Although it's ranking has improved, Swaziland has not met its target of achieving below 100 and currently ranks at 136 (2016)[57], see Figure 13 below.

[57] Total countries ranked are 193

Figure 13: Swaziland's ranking on the UN e-Government Development Index



EGDI Rank	2016	2014	2012	2010	2008	2005
Swaziland	136	138	144	145	125	108

Source: United Nations (2016)

6.3 IDENTIFIED MARKET CONSTRAINT FACTORS

The OECD has noted, that "while e-government has emerged as a powerful tool for modernising government and achieving the goals set in governments' reform agendas, its implementation has posed a number of challenges, both internal and external, for countries that are committed to grasping its benefits."

The digital divide is an important barrier to e-government in that people who do not have access to the Internet will be unable to benefit from online services. In Swaziland, the challenges of the high cost of communications and weaker than desirable quality of service, due to the fact that the telecoms market is not liberalised, contribute to the digital divide and were raised as constraints to e-commerce uptake in 2013 when the strategy was developed. These problems persist and are being addressed as set out in Part 3 of this report (Telecommunications Baseline Report). In addition to the pricing and quality recommendations identified in the 2013 strategy, this report finds that there is a need to focus on increasing access to online services, and strengthening ICT education and skills.

A market constraint factor that is being addressed and should be focussed on is skills development and training. In Part 2, it was found that skills are the indicator in which Swaziland is the strongest on the World Economic Forum's NRI. Digitally literate citizens are a pillar of the implementation of

an e-government strategy, hence skills development requires even greater attention, including skills development at school level.

Lack of clarity of regulations and requirements on agencies can be a major barrier for e-government, as they increase the cost for agencies to collaborate and use information to deliver better services. Importantly, an understanding of privacy and security legislation and practices needs to be in place before online services can advance, whether in terms of e-government or e-commerce.

6.4 CONCLUSIONS

The e-Government Strategy for Swaziland covers the period 2013 to 2017 and given that it is in its final year, its effectiveness should be reviewed and a new strategy and/or implementation plan developed, taking into account the current ICT market, development and government realties.

6.5 CONCLUSIONS

As has been set out in this report, the world is experiencing a shift to a digital economy. The rapid take-up of new technologies, including mobile communications, digital platforms, big data, cloud computing and social media are changing the nature of products and services and the way people interact. Mobile communications have been the primary driver of this change globally and in Swaziland. Swaziland has approximately 14 000 fixed broadband users and 410 000 active mobile broadband SIM cards (3G plus 4G), with more people connecting to mobile networks and accessing digital content every day.

The challenge now is to increase access to digital technologies and the Internet with respect to telecoms, postal and broadcast services, thus moving Swaziland into a digital future at a faster pace. In order to achieve this, the market needs to be liberalised and the regulatory framework updated to align with new developments and to promote a robust digital economy.