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Telcos Approach in addressing the Digital Divide

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Keywords

Digital divide, telecommunication, digital inclusion, social inclusion

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List of Acronyms

4IR	Fourth Industrial Revolution
API	Application programming interface
CCN	Community Cellular Networks
CEO	Chief Executive Officer
CSIR	Council for Scientific and Industrial Research
CSR	Corporate social responsibility
DCDT	Department of Communications and Digital Technologies
DoC	Department of Communications
DT	Digital Technologies
GDP	Gross Domestic Product
GSM	Global System for Mobile Communications
GSMA	Groupe Speciale Mobile Association
HUD	Department of Housing and Urban Development
ICASA	Independent Communications Authority of South Africa
ICT	Information Communications Technology
IoT	Internet of things
ITU	International Telecommunication Union
NDP	National Development Plan
NGO	Non—governmental organisation
NPC	National Planning Commission
NSF	National Science Foundation
NSFNET	National Science Foundation Network
ROI	Return on Investment
SAME	Satellite and Advanced Multimedia Education
SMS	Short message service
Telcos	Telecommunication companies
UN	United Nations
UNDP	United Nations Development Programme
US	United States (of America)

USAF	Universal Service and Access Fund
USSD	Unstructured Supplementary Service Data
UWC	University of the Western Cape
VRIN	Valuable, rare, inimitable, and non-substitutable
WISE	World Innovation Summit for Education

Chapter 1: Introduction

1.1 Purpose of the Study

The purpose of the qualitative, interpretative study was to explore the perspectives of senior executives within South African telecommunication companies (Telcos) regarding their companies' role in bridging the digital divide.

1.2 Research Problem/Context and Background

One of the biggest challenges that the world faces when moving into a connected society is to bridge the digital divide (Cisco, 2020).

The digital divide is a term that was introduced in the late 1990s that defines the difference between persons with access to and without access to new forms of information technology (Kommers et al., 2011). Thirty years later, the divide has grown at a rate equivalent to the insights that advance technology, which has resulted in exponential growth of the divide (Kommers et al., 2011).

Several studies point to the economic and social growth benefits of providing people and communities access to the internet and new forms of information technology. It has been found to be tremendously beneficial to move people from not-connected to connected to stimulate economic and social growth, as referred to in the following sections (Cisco, 2020).

Digital inequity forms part of the South African landscape, as stated in Digital Futures SA's Digital Readiness for 4IR (fourth industrial revolution) (Research ICT Africa, 2020). This article highlights several integral points. Firstly, it is evident that the global COVID-19 pandemic has exacerbated the need to accelerate the rate of closing the gap and ensuring digital inclusion for all.

Secondly, while South Africa's broadband coverage as a nation is at 95%, only 50% of South Africans have access to the internet, and out of that, only a disappointing 24% of informal sector businesses have access to the internet (Research ICT Africa,

2020). Thirdly, the gap keeps widening, as the developing world and Africa, which are known as key development priorities, rely heavily on connectivity for the growth of business and the economic environment. The lack of connectivity therefore causes an ever-widening gap between those businesses that are connected and those that are not (Research ICT Africa, 2020).

Collaboration with government, society and the private sector needs to be accelerated to ensure that the change in jobs of the future is met and successfully anticipated (Cisco, 2020).

Bridging the digital divide remains a priority for the South African government. The Department of Communications (DoC) and Digital Technologies (DT) have developed detailed plans on how to achieve this goal through the joint DCDT initiative (DCDT, n.d.). Bridging the divide has moved beyond providing mere access to also refer to the required skills levels, usage and a consideration of country and community-specific nuances (geographical location, socio-demographic variables, among others) (Gigler, 2015).

With the COVID-19 pandemic and subsequent lockdown, certain challenges arose, highlighting the gaps that South Africa still faces in bridging the digital divide. These challenges include internet access, affordable data, access to the necessary devices (computers, laptops), a particular level of digital skills and a supportive social context in view of working from home, or schooling from home, and the ability to access much-needed health information. In response to these challenges, South Africa's government and the Minister of Communications released some "COVID temporary spectrum" to assist with these COVID-19-related challenges. This spectrum included zero-rated sites for education and certain governmental health sites (Research ICT Africa, 2020). Table 1.1 illustrates the temporary assigned spectrums to address the challenges caused by the COVID-19 pandemic.

Table 1.1:

Temporary Spectrum Assignment COVID Spectrum

Network Band	Operator	Temporary Assignment	Previous Spectrum
700/800 MHz	Telkom	40 MHz	
700/800 MHz	Vodacom	40 MHz	
700/800 MHz	MTN	40 MHz	
2300 MHz	Telkom	20 MHz	60 MHz
2300 MHz	Vodacom	20 MHz	
2600 MHz	Telkom	40 MHz	
2600 MHz	Vodacom	50 MHz	
2600 MHz	MTN	50 MHz	
2600 MHz	Rain	30 MHz	20 MHz
3500 MHz	Telkom	12 MHz	26 MHz
3500 MHz	Vodacom	50 MHz	
3500 MHz	MTN	50 MHz	
3500 MHz	Liquid Telecom	4 MHz	56 MHz

Source: Independent Communications Authority of South Africa (ICASA), 2020

The South African telecommunications industry is the most developed and advanced on the African continent (Research ICT Africa, 2020).

Telcos, which are predominantly profit-driven companies that compete on a global level, have a vital role to play in bridging the digital divide. An analysis of the economic impact that Telcos have on the economy, what factors play a part in the bottom line of the telecommunication business in addressing the digital divide and what could be the potential benefits formed part of the proposed study.

1.3 Research Question

The primary research question that guided the study was defined as follows:

What is the perceived role of Telcos in bridging the digital divide?

The secondary research questions in support of the main research question included the following:

- What are the current practices of Telcos in bridging the digital divide in South Africa?
- What is the motivation of Telcos for addressing the digital divide?
- What are the key issues and concerns that Telcos experience in terms of addressing the digital divide?
- What are the benefits for Telcos in pursuing these initiatives?

1.4 Significance of the Study

The impact that the digital divide has had on the economy, including the effects of the COVID-19 pandemic, was a focus of the study. Recent events appear to have indicated an ever-widening gap (Cisco, 2020). The cause of this phenomenon needed to be identified, as it was deemed to be of crucial importance to address the divide. The study looked at the avenues, plans and ways forward from a Telco's point of view to address this and how it could possibly be amplified or accelerated. The premise of affordability and the reason for delayed adoption in metropolitan areas have been studied and explored, along with location-based studies (Helsper & Smahel, 2020). This research project aimed to build on the previous studies and explore the role that telecommunication operators are playing in bridging this divide in South Africa.

The purpose of the paper was to contribute to the discourse on the digital divide and propose ways of responding to digital inequalities. Illustrations of arguments used in the design/methodology/approach were based on reviews of academic literature, project reports, policy documents and research findings, and were informed by critical theory, gathering insights and provoking further research into the digital divide that could be bridged by Telcos in South Africa and other developing countries.

Digital Futures and South Africa's readiness for the 4IR (Research ICT Africa, 2020), state the aim for South Africa as driving digital inclusion across the country. The digital readiness of the country is crucial to ensure access to funds and opportunities that would uplift and enable change for those under-resourced communities by merely being digitally ready and active. Coordination and collaboration from different sectors and industries are needed to shift from the current situation to a South Africa that will form part of the global economy, with digital inclusion for all (Research ICT Africa, 2020). Currently, the targets of affordability and communication are far from being met (Khan, 2016).

The potential significance of this study was that it would add to the body of knowledge on addressing the digital divide and could potentially stimulate further study and application of ideas and practices (testing) from industry leaders in both the Information Communications Technology (ICT) and government sectors, with the aim to provide further insights into the minds and behaviours of the identified customer base. This could serve to ignite further study and a deeper analysis to ultimately bridging the digital divide.

An in-depth understanding of the role of Telcos in the economy, in international business and in the local context with respect to crossing the digital divide is thus crucial.

1.5 Delimitations of the Study

The study focused on the role of local Telcos in bridging the digital divide in South Africa, with specific focus on the telecommunications industry.

The role of multinational companies in the South African context did not form part of the study. Access, usage and benefit from using the internet and becoming an active part of the global economy and globally connected world are the ultimate goal of bridging the digital divide. Telcos will have a critical role to play in achieving this goal.

1.6 Definition of Terms

- **ICT** – Information Communications Technology (ICT, or information and communications technology or technologies), is the infrastructure and components that enable modern computing. Although there is no single, universal definition of ICT, the term is generally accepted to mean all devices, networking components, applications and systems that combined allow people and organisations (i.e. businesses, non-profit agencies, governments and criminal enterprises) to interact in the digital world (Pratt, 2019).
- **Telcos** – Telco is the term for a telecommunication operator, that is a company that provides telecommunications services such as fixed-line, mobile and data services for end-customers (IGI-Global, n.d.).
- **Spectrum** – Bands that run network infrastructure.
- **2G** – first introduced in 1992, is the second-generation of cellular telephone technology and the first to use digital encryption of conversations. 2G networks were the first to offer data services and short message service (SMS) text messaging, but their data transfer rates are lower than those of their successors (GSMArena, n.d.a)
- **3G** – networks succeeding 2G, offering faster data transfer rates and the first to enable video calls. This makes them especially suitable for use in modern smartphones, which require constant high-speed internet connection for many of their applications (GSMArena, n.d.a).
- **4G** – is the fourth generation of mobile phone communications standards. It is a successor of 3G and provides ultra-broadband internet access for mobile devices. The high data transfer rates make 4G networks suitable for use in USB wireless modems for laptops and even home internet access (GSMArena, n.d.a).
- **5G** – is the fifth generation of mobile phone communications standards. It is a successor to 4G and promises to be faster than previous generations while opening up new uses cases for mobile data. The 5G benefits range from faster speeds (up to 10x faster), much lower latency (up to 50x lower)

and greater capacity, allowing many more devices to be connected at the same time (GSMArena, n.d.a).

- **Network availability** – "Network availability is **the amount of uptime in a network system over a specific time interval**. Uptime refers to the amount of time a network is fully operational. ... Network availability is typically recorded by real-time performance monitoring tools in a proactive manner" (Gillis, 2019).
- **Network capacity** – "Network capacity is **the amount of traffic that a network can handle at any given time"**. This includes the number of simultaneous voice calls and maximum data speeds (GSMArena, n.d.b). It is crucial to having a reliable and stable network experience. Capacity in the network gives everyone the same experience without anyone being limited by speed or experience. Most Telcos would more than likely be facing the same type of issues of capacity, availability and experience to deal with. These would also include the balance between profit and access, network availability and benefits of having network capacity on 2G.
- **Profit and access** – There is a balance of profit and access, being able to give affordable data access to a smartphone and still making a profit (Porter, 2020).

1.7 Chapter Outline

Chapter 1 (Introduction) outlines ICT and the role Telcos play in the community and in South Africa, and in bridging the digital divide. It explains briefly how the COVID-19 pandemic has exposed the glaring gaps in the market, providing further background and specific studies on post COVID-19 and the digital divide.

Chapter 2 (Literature Review) reviews international and local literature and former case studies on how Telcos have approached bridging the digital divide. It explores the main themes that surround the subject.

Chapter 3 (Research Methodology) explains the methods, design and approach applied in the study and the selection criteria.

Chapter 4 (Presentation of Findings) presents the data collection findings and analysis, describing the methods used and their background and context.

Chapter 5 (Discussion of the Findings) integrates the findings from the analysis with existing literature, with in-depth discussions to answer the research question.

Chapter 6 (Conclusion and Recommendations) discusses the main themes of the study and how they relate to the research questions posed. It provides practices, policies, strategies and recommendations that could contribute to bridging the digital divide. It also highlights the limitations of the study and proposes future study topics into the subject area.

Chapter 2: Literature Review

2.1 Introduction

This chapter provides a review of national and international literature relating to the role of Telcos in society and in bridging the digital divide. The digital divide, field of ICT and general developments related to these fields are explored. Telcos' role in bridging the digital divide in South Africa is explored and the issues faced are explored and discussed.

2.2 Local and International Perspectives on ICT Infrastructure

Technological advancement in society over the last 30 years has been nothing short of revolutionary (Vickers & Ziebarth, 2019). During this time the world has moved from computers being housed in giant warehouses to having a device in your pocket with the same computing power used to send the first rocket to the moon.

The impact of ICT on the use of mobile phones, the internet and other devices to develop, collect, store and share information digitally has changed the way we interact and work in the world in which we live (World Bank, 2016a).

The global connectivity rate is assessed at 4.66 billion worldwide active internet users as of January 2021, or 59.5% of the global population. Of this, a total of 92.6% or 4.32 billion users access the internet via mobile devices (Johnson, 2021).

Economic growth and poverty reduction in South Africa, specifically is a high priority for the National Planning Commission (NPC). The ICT sector and technology play a crucial role in this respect and form part of the National Development Plan (NDP) (NPC, 2011). Compared to traditional information devices/tools such as radio, television and personal computers, mobile devices are in greater use (NPC, 2011). It is estimated at 162 mobile subscriptions per 100 national citizens.

The impact of cellular/mobile connectivity in South Africa is heavily under-indexed compared to most developed countries in Africa. This refers to connecting to the

internet using a mobile phone or tablet, with South Africa rating 12th overall in terms of internet access for African countries (Johnson, 2021).

Almost 48% of the world's population still has no access to the internet (Topic: Mobile Internet Usage Worldwide, 2023). The digital divide is the gap between those who have access to ICT, primarily the internet, and those who have limited or no access (Petrosyn, 2023).

While the term "digital divide" was coined in the mid-1990s, it is still a hot public policy debate, not least because it touches on social, political and economic issues. Nearly every country in the world faces elements or degrees of digital divide, the "digital divide" referring to the gap between those who have access to ICTs and those who do not. ICTs are information and communication technologies that drive access to knowledge (Steele, 2019).

The digital divide exists in a more profound way among low-income groups and communities. In early years, since 2005, the global adoption rate and access to the internet has grown from 16.8% to 53.6% (International Telecommunications Union [ITU], 2020). It is therefore both a local issue and one that underdeveloped countries around the globe face. There is also a global digital divide between genders and users. In all regions of the world, more men 58% (ITU, 2020) than women use the internet. The gap is small in developed countries and significant in developing countries.

With the current global communications capabilities, how could it be possible that almost half of the world's population has no access to essential internet? This is of concern, particularly given that we now know, without doubt, that there is a clear correlation between access to ICT services and prosperity growth. The GSMA cites several reports that show the impact of mobile adoption (Bahia & Delaporte, 2020). The GSMA report states that: "A 10% increase in mobile penetration increases total factor productivity over the long run by 4.2 percentage points" and "a 10% substitution from 2G to 3G penetration increases Gross Domestic Product (GDP) per capita growth by, on average, 0.15 points" (Bahia & Delaporte, 2020). In total,

25% of overall GDP growth can be traced back to the availability of internet services. Benefits of good, easily accessible ICT services are abundantly clear (Bahia & Delaporte, 2020).

South Africa's prepaid mobile data is the highest priced in Africa, not helping to close the divide. Gillwald (2018) states that South Africa has the highest rate per 1GB prepaid data in the African continent.

Although significant progress has been made with ownership of mobile devices in South Africa, basic voice telephony has remained the dominant use for mobile devices (Gabriels & Horn, 2014). The "abysmal" ICT infrastructure in South Africa is described by Gabriels and Horn (2014) when compared with international best practice/standards (Gabriels & Horn, 2014). The United Nations (UN) Broadband Commission for Sustainable Development (Martin, 2020) has set a goal for broadband affordability. This goal is: entry-level broadband – 500MB of mobile data at 5% or less of average national income. South Africa has met this goal; however, the price is still above the 5% mark for the majority of the lower income groups (Alliance for Affordable Internet [A4AI], 2016). South Africa not only falls short of the standards of developed countries, but all mobile costs, including prepaid prices, are considered high when compared to other countries on the African continent.

2.3 The Nature of the Digital Divide

When computers were first introduced to the market, they were extremely expensive and this created a divide between those who could afford to pay the price and access all the advantages that came with owning a computer and those who could not afford it. However, as the cost of computers dropped, more and more people are gaining access to these devices. The digital divide has thus evolved to take on an added meaning. It is not only about the devices but also about the usage and derived benefit from using the internet (Quora, n.d.).

In 2006, Nielsen notably categorised the digital divide into three stages, namely:

- Economic Divide.

- Usability Divide.
- Empowerment Divide.

According to the United States (US) Department of Housing and Urban Development (HUD) (US HUD, 2016) , the digital divide now no longer focusses on only the lack of access to the internet but also the ability to make full use of the technology that is available, including the technical and financial abilities.

Digital literacy and bandwidth have become the focus of the digital divide. This has caused a shift from the previous focus, which was primarily access to computers and smartphones (Cisco, 2020). Students who are forced to study from home face severe challenges without access to high-speed internet or due to the lack of digital literacy. According to Dorn et al. (2020), a GDP loss estimated at $173 billion to $271 billion per year by 2040 can be expected if learning gaps are not addressed.

High-speed internet access is imperative for economic growth, increased household income, educational performance, healthcare access and employment searches. Access to information allows communities to prosper. The inverse is also true when high-speed internet accessibility is not possible (US HUD, 2016).

On average, a 10% increase in mobile broadband adoption causes an initial 0.8% increase in GDP. The economic effect gradually decreases over time. Based on our econometric results, this implies that for the country with median average growth of mobile broadband penetration, the economic effect has disappeared six years after introduction (Edquist et al., 2018).

The initial issue was access, especially in developing countries, but in recent years some significant strides have been made to put people within reach of mobile network coverage. While 93% of the population are within the coverage area, only 53% uses the internet (International Telecommunications Union [ITU], 2019). Access to smartphones and usage of the internet is based on a lack of knowledge and perceived benefit from what being connected could actually mean; how the end-

user sees the benefit ultimately guides the decision or reason to consume. Affordability alone does not drive these decisions.

South Africa still has many regions that do not have internet access. This is hugely detrimental to the growth of an economy because a large number of people cannot contribute to the online economy or even access essential information. (World Bank, 2016b) What is more, some students cannot access information needed to study from home, which was a necessity during the COVID-19 pandemic. Even if people do not have computers or internet access at home, there should be alternative access options (Cisco, 2020).

2.4 Perspectives on the Role of Telcos in Bridging the Digital Divide

Mossberger et al. (2004, p. 15) conceptualise the digital divide to consist of multidimensional aspects of technological inclusion: “an access divide, skills divide, an economic opportunity divide, and a democratic divide”. High-speed internet is a tool that people increasingly rely upon to interact with the government, the economy, and each other. Increased home internet use is associated with a significantly higher probability of contacting government officials in various ways (Mossberger et al., 2004).

Private and public sectors have worked together to bridge the divide in a number of ways. Vodacom South Africa and BPG Langfontein, a farmer in Wakkerstroom in the Mpumalanga province of South Africa, connected and provided the first smartphone only town in South Africa (Janeke, 2020).

In a similar way, the Satellite and Advanced Multimedia Education (SAME) project focused on providing high-quality education to all schools, including urban and rural in Karnataka (India) (World Innovation Summit for Education [WISE], 2017).

Linux4Afrika (n.d.) focuses on bridging the digital divide between developed and developing countries, by spreading Open Source Software on a national and international level. The Freiburger Open Source Software Netzwerk (“FreiOSS.net”)

is committed to focusing on the educational side of the divide and connecting the developing world to the developed world (Linux4Afrika, n.d.).

The National Science Foundation (NSF) undertook initiatives to bring the internet to universities across the country. These efforts culminated in NSFNET, a national network that became the new backbone of the internet. As the popularity of the internet grew, so did congestion and demand beyond capability (Tarnoff, 2016).

A partnership between the Mankosi community and the University of the Western Cape (UWC) started in 2012 (Tucker, 2017). The aim was to create a rural bottom-up local Telco option that was sustainable to implement in rural communities in South Africa that reduces the cost of communications for its inhabitants. Currently, a concept network has been trialled and is operational in the community (Tucker, 2017).

With the global pandemic and social distancing implemented around the globe, the need for connectivity was highlighted. The obvious gaps in the digital world were also brought to the forefront. There has been good awareness created and it also accelerated the growth rate of connecting the unconnected, as seen by the examples above. The importance of a digitally inclusive society, underpinned by the digital economy and universal access, is crucial in today's age. The benefits to having a digitally inclusive society include, among others, an increase in innovation, education and employment. This, in turn, results in GDP growth and a more equal playing field for society (Bahia & Delaporte, 2020).

Telcos in international markets have approached the digital divide with alternatives, such as Community Cellular Networks (CCN) to allow mobile users discounted rates. The emergence of low-cost cellular equipment for this purpose has allowed communities worldwide to have fully operational Global System for Mobile Communications (GSM) networks providing affordable access. An example is the 15 CCNs initiative in Oaxaca in Mexico (Lakhani, 2016). Based on their success, the Mexican regulator has allocated 10 MHz of GSM spectrum for social use in small communities and indigenous regions, called Social Purpose GSM License.

In Rural America, the 2019 Rural Digital Opportunity Fund allocated $20.4 billion for Telco service providers over the next 10 years. This, along with the 2020 5G Fund for Rural America, where $9 billion was allocated for 10 years, makes it obvious that connecting all citizens is a key objective and the funding needed will be provided as the benefits of a connected society are evident in the research (Bahia & Delaporte, 2020; World Bank, 2016a), indicating the importance this has and support it will be getting from the US government (Federal Communications Commission, 2019).

A partnership between Google and Safaricom in July 2020 saw the smartphone financing options gaining traction, by means of the Lipa Mdogo Mdogo payment plans, allowing customers to move from 2G devices to 4G devices with a daily payment plan. This plan is affordable and includes a once-off deposit to secure the device and agreement (Guardian Nigeria, 2020). The daily payment options are attractive to low-income users and daily wage earners, as it gives them the opportunity to pay as they earn.

In 2019, Nedbank South Africa and Bank of Kigali Rwanda, along with several other banks, partnered with Mara Phones smartphone to finance devices for consumers on a monthly instalment basis of $4–6 over two to three years. The target audience of the Mara plan are those looking at moving to fully featured devices, but the cost of these devices is outside their affordability band (Guardian Nigeria, 2020).

2.5 The Business Reality of Telcos and Addressing the Digital Divide

Key challenges arise when operators implement a mobile network and overlay these against the difficulties of bridging the digital divide. Very broadly speaking, the main challenges a new mobile network faces revolve around costs of setup, operation and regulatory factors (Bahia & Delaporte, 2020). According to the GSMA report, the main driver of success is achieving economies of scale, that is attracting enough customers onto the network to bring the average cost per user lower than the average revenue per user. Often in the early years of an operator's lifecycle, they

will run at a loss until the customer base grows and economies of scale are achieved (Bahia & Delaporte, 2020).

Discussing the cost challenge, the lack of coverage in rural areas is a fundamental economic challenge. Deploying infrastructure in remote areas, such as fibre backhaul or base stations, can be twice as expensive as in urban areas, while revenue opportunities can be a fraction of that in urban areas, a combination that makes the business case to deploy infrastructure in these areas completely unviable using today's telecoms business model (GSM Association [GMSA], 2017). It is clear that if urban locations represent the perfect economic scenario for an operator, rural and remote areas become significantly more challenging to achieve return on investment (ROI).

The GSMA Report on "Unlocking Rural Coverage enablers for commercially sustainable mobile network expansion" (GSMA, 2017) highlights the following facts.

Firstly, 60% of the world's population lives in rural areas; secondly, 20% lives in remote areas; and thirdly, extending mobile broadband coverage to these areas to reach these populations is multi-faceted in terms of cost models (GSMA, 2017) Because the populations tend to be spread out across vast areas, the business model for building a site in such areas is highly unprofitable. Rural areas represent over 90% of the land surface on earth, with population density often below 100 people per square kilometre (GSMA, 2017). The GSMA estimates that a profitable site should have 3,000 active daily users. This means that only rural or remote areas where the population density is equal to or more than this, within a 25 km^2 area (the coverage range of a single site using a 900MHz spectrum), are commercially viable.

At the end of 2019, the active mobile subscribers in sub-Saharan Africa accounted for 45% of the population and a total of 477 million people (Bahia & Delaporte, 2020). This does not even account for half of the population of the area in question. According to a report on mobile economy in sub-Saharan Africa, the mobile market will reach several significant milestones over the next five years: These milestones

include: “half a billion mobile subscribers in 2021, 1 billion mobile connections in 2024, and 50% subscriber penetration by 2025” (Okeleke & Suardi, 2020).

Mobile operators’ continuous investment in network infrastructure will pave the way for these achievements. A total of $52 billion in infrastructure were committed by local telecommunications providers despite uncertainty brought by the COVID-19 pandemic. The target is 2025 for reaching the infrastructure goal. In 2020, 50% of total connections was attributed to smartphone connections, thus we can deduce that smartphone adoption continues to rise rapidly due to cheaper devices becoming available. Financing of smartphones is becoming more popular, as seen in the partnership between Safaricom and Google. This partnership allows low-income subscribers to pay for 4G devices in daily instalments. It is estimated that the number of smartphone connections will almost double. This relates to a reach of 678 million people by the end of 2025, and in turn an adoption rate of 65% (Okeleke & Suardi, 2020).

Compared to other African countries, South Africa scores poorly against the benchmark on pricing and affordability. This is not surprising, given the Competition Commission findings (*The Mobile Economy - the Mobile Economy*, 2022). Prices need to be benchmarked and assessed against quality of service. A significant drop of at least 25% in retail prices of both data and voice services has accrued across the market and service providers.

Besides the fact that South Africa is in a position where we have “disconnected” people in South Africa who have never connected to the internet, we still have a problem with smartphone owners vs internet usage, which could be due to the lack of knowhow or device knowledge. The reality is that just because a consumer owns a smartphone does not necessarily mean that they use it for internet connectivity. Smartphone owners are estimated to be on 85% of the total mobile consumers, while internet users are sitting on 53% of the smartphone owners, thus still a big gap to close (Cisco, 2020).

Access, usage and benefit could almost directly be linked to income. According to the (The Mobile Economy - the Mobile Economy, 2022) and World Bank (2016b) reports, the “bottom of the pyramid” is lagging in terms of access and usage.

The role business plays in society often has a one-sided focus, putting most of the efforts on the activities of the company, on achieving its bottom-line, while less emphasis is placed on the context in which they operate. However, more is being expected from business in society (Fitzgerald & Cormack, n.d.).

The role of business in society is to innovate and deliver products and services, to use resources efficiently so that value is created and to conduct operations so that they are performed profitability and accepted by society.

Therefore it is the questions all businesses must ask, what is our role in society, how do we meet the needs and expectations of society, innovate, develop, stay ahead of the curve and at the same time deliver profit margins large enough to stimulate the economy (Fitzgerald & Cormack,. n.d.).

Proposition 1: Telcos initiate various initiatives to bridge the digital divide.

Proposition 3: Telcos experience/face multiple challenges in conducting (expanding) their business and in addressing the digital divide.

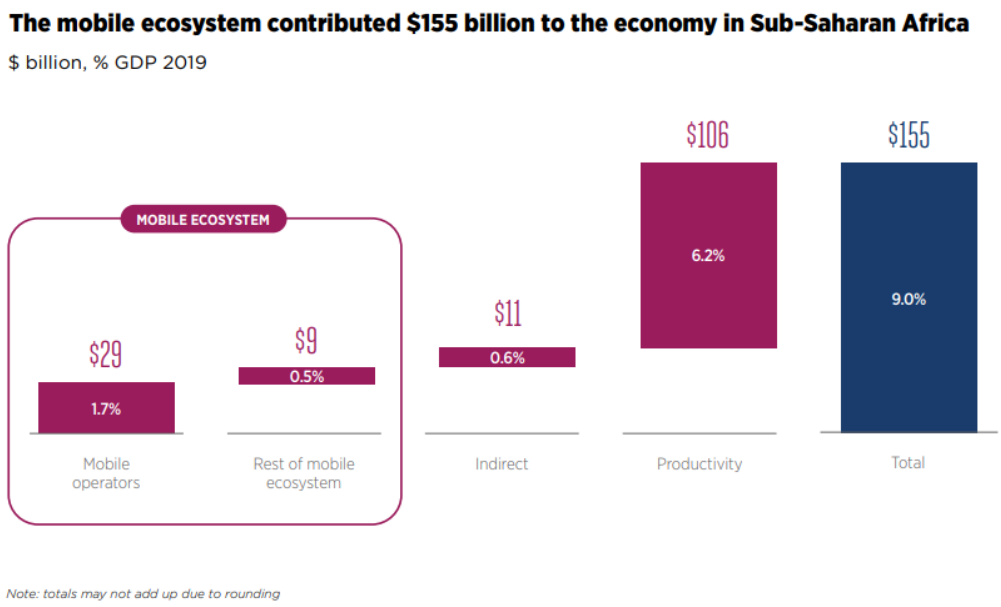
2.6 The Role of Telcos in Society

In 2019, mobile technologies contributed $155 billion of economic value and generated 9% of GDP in sub-Saharan Africa. Mobile economy initiatives (directly and indirectly) created and supported more than 3.8 million jobs and made a large contribution to the public sector, through the generation of $17 billion in taxes. It is estimated that by 2024 the mobile economy will contribute almost $185 billion as countries benefit from increased productivity and efficiency through connectivity. Mobile ecosystem initiatives linked to sub-Saharan Africa are reliant on the informal economy due to the fact that 1.4 million of the 2 million directly employed by the

mobile ecosystem are informally employed in the retail and distribution of mobile services or related products (The Mobile Economy - the Mobile Economy, 2022).

Figure 2.1

Contribution of Mobile to Economy in Sub-Saharan Africa



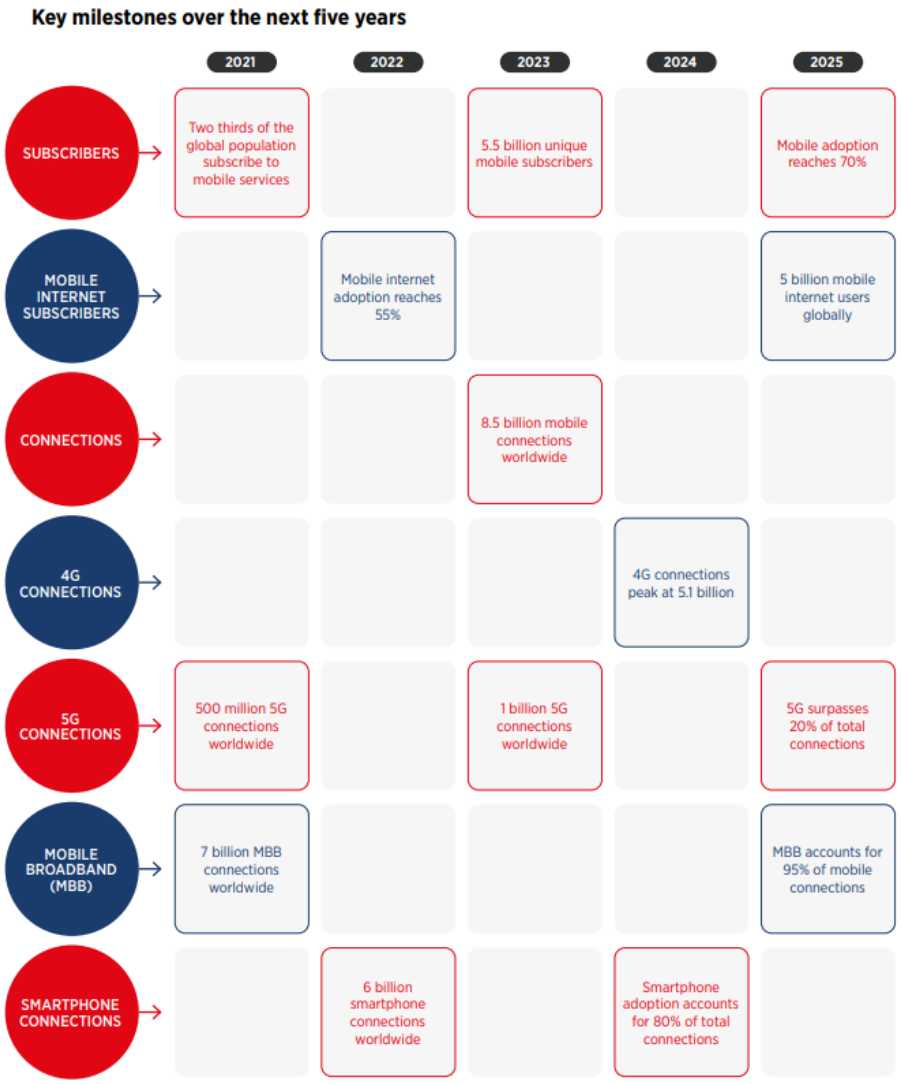
Source: (The Mobile Economy - the Mobile Economy, 2022)

The impact that the mobile Telco industry generates for the economy of countries, continents and the world is undeniable. Mobile operators specifically generate $29 billion to the economy of sub-Saharan Africa, as can be seen in Figure 2.1.

Figure 2.2 shows the role mobile technology played as of 2021 and key milestones that will be reached by 2025 at the current adoption rate and trajectory (The Mobile Economy - the Mobile Economy, 2022).

Figure 2.2

Milestones for Telcos



Source: (The Mobile Economy - the Mobile Economy, 2022)

As seen in Figure 2.2, the future of telecommunication and the rapid growth are both exciting and challenging at the same time. Those on the wrong side of the digital fence will lag even further behind and will not be part of the global mobile economy (The Mobile Economy - the Mobile Economy, 2022).

Some of the activities listed in Figure 2.2 have already taken place in the last calendar year 2020 in South Africa, among others similar to the 7 billion connections worldwide and two thirds of the world's population being connected to a mobile device. The COVID-19 pandemic has helped to accelerate digital inclusion, and mobile operators initiated multiple initiatives to combat the divide. Some of these initiatives ae described below:

- Ayoba COVID-19 channels, a USSD (Unstructured Supplementary Service Data) line that is used for reporting infections and other critical information has been zero-rated by MTN.
- A track-and-trace solution/mobile application was developed to identify people who may have contracted COVID-19 or have been in close contact with such people. This initiative is a partnership between Telkom, the National Institute for Communicable Diseases and the Council for Scientific and Industrial Research (CSIR).
- Vodacom has supported the National Department of Health and their strategies to combat the spread of COVID-19, by providing 20,000 devices, 100 TB of data and 10 million voice minutes to the National Department of Health.

Perhaps one of the greatest success stories is that of Harambee. (Harambee Youth Employment Accelerator, 2021). Harambee is a youth job accelerator that links 500,000 job seekers to 50,000 employers. This matching is done by connecting the demand for certain skills with the supply of those skills. Customised digital skills training of youth with the aptitude to do different kinds of digital work is thus accelerated as an alternative to formal education. This solution allows the youth to receive training at a fraction of the price and brings unemployed youth into the workplace where they are needed. This is a cost-effective method of skills development instead of training graduates through a long-term degree that often does not align with industry needs (Harambee Youth Employment Accelerator, 2021).

Proposition 2: A diversity (variety) of factors motivates Telcos to address the digital divide.

Proposition 4: Various perspectives exist on the potential benefits Telcos can derive from contributing towards digital inclusion initiatives.

2.7 Theoretical Frameworks Guiding the Study

This study was guided by the stakeholder theory (related to the role of business in society), and more specifically the resources appropriation theory, relevant to the discourse on the digital divide. The Gigler model related to the conditions required for the meaningful use of ICTs for human and social capability development was also applied in considering the nuanced perspective on the digital divide.

2.7.1 Stakeholder Theory and Resource Appropriation Theory

Stakeholder theory was first described by Dr F Edward Freeman, a professor at the University of Virginia, in his landmark book, “Strategic Management: A Stakeholder Approach” (Freeman et al., 2021). It suggests that shareholders are merely one of many stakeholders in a company. Freeman et al. (2021) argue that the stakeholder ecosystem involves anyone invested and involved in, or affected by, the company: employees, environmentalists near the company’s plants, vendors, governmental agencies, and more. Freeman et al.’s (2021) theory suggests that a company’s real success lies in satisfying all its stakeholders, not just those who might profit from its stock. The Stakeholder Theory is used to consider/reflect on (the why of) the role of Telcos in society and why the involvement in the digital divide is important.

The Resource Appropriation Theory examines the causes and effects between social and digital exclusion. The fundamental key focus is the exclusion of individuals due to integration of ICTs in all aspects of society. Van Deursen and Van Dijk (2019) argue that the types of digital skills that exist and need to be focused on are operational, information, strategic, usage, frequency, application and cost of usage. The main focus is on the exclusion and inclusion of internet usage (Van Deursen & Van Dijk, 2019).

Stakeholder Theory, in combination with the Resource Appropriation Theory, was the best to use for this study as it finds the balance between stakeholder profits and longevity of the firm, as well as utilising the resources appropriately to ensure that all stakeholders are part of the decision-making and strategic course of the firm.

“Statement of Corporate Purpose” from the Business Roundtable (Bainbridge, paper 3, volume 47n.d.) was the aim of the study.

The Resource-based View (RBV) analyses and interprets internal resources of the organisations and emphasises resources and capabilities in formulating strategy to achieve sustainable competitive advantages. Resources may be considered as inputs that enable firms to carry out their activities. Internal resources and capabilities determine strategic choices made by firms while competing in their external business environment.

RBV and Stakeholder Theory are both fundamental theories in management, and their scholarship has grown exponentially over the past 35 years. However, their development paths, although started from the same origins, evolved in parallel. Though RBV and Stakeholder Theory are effective frameworks for addressing management issues on their own; the greatest potential is in their combination. The unified approach can help to explain the raison d’être for a firm’s existence as well as deliver on its promise, their purpose promise, as well as deliver to its stakeholders.. Apparently, this is what the CEOs of Business Roundtable companies intended to achieve when they redefined the purpose of a corporation to promote the well-being of its stakeholders: customers, employees, suppliers, communities, and shareholders (Business Roundtable, 2019).

2.7.2 Gigler Model on the Mechanisms for Meaning Full Use of ICTs for Improved Human and Social Capabilities

The Gigler Model explores the conditions under which information and communications technologies (ICTs) can enhance the well-being of poor communities. This “alternative” evaluation framework applies Sen's capability approach to the study of ICTs in view of placing people's well-being rather than technology at the centre of the study. The framework proposes an impact chain that examines the mechanisms by which access to, and meaningful use of ICTs can enhance people’s “informational capabilities”, which can lead to improvements in people's human and social capabilities. Evaluating the impact of ICTs in terms of

capabilities thus reveals that there is no direct relationship between improved access to, and use of, ICTs and enhanced well-being; ICTs lead to improvements in people's lives only when informational capabilities are transformed into expanded human and social capabilities in the economic, political, social, organisational and cultural dimensions of their lives (Gigler 2015).

These theories played pivotal roles in shaping the study's foundation, methodology, and interpretation of findings.

Stakeholder Theory:

This theory provided a robust framework for understanding the complex relationships between telcos, various stakeholders, and the broader South African society. It allowed me to analyse the interests, expectations, and influence of stakeholders such as government agencies, consumers, non-governmental organisations, and communities.

Stakeholder Theory also guided the identification of the diverse and often competing interests within the telecommunications sector, shedding light on how telcos' decisions and actions impact different groups. This perspective was invaluable in assessing the effectiveness of telcos in addressing the digital divide.

Resource Appropriation Theory:

Resource Appropriation Theory served as a lens through which I examined how telcos allocate and leverage resources to bridge the digital divide. It allowed me to explore how telcos compete for and allocate essential resources like infrastructure, spectrum, and capital.

By applying this theory, I gained insights into the dynamics of resource allocation in the telecommunications industry, including the challenges telcos face in acquiring and optimising resources to expand connectivity and digital inclusion.

Gigler Model:

The Gigler Model, which focuses on the analysis of digital inclusion initiatives, provided a practical framework for evaluating the specific strategies and interventions employed by telcos in South Africa to bridge the digital divide.

This model facilitated the structured assessment of telcos' efforts in terms of access, affordability, digital literacy, and content relevance. It enabled a comprehensive evaluation of the impact of telcos' initiatives on South African society, highlighting areas of success and areas requiring improvement.

By integrating these three theories into my study, I was able to develop a holistic and multifaceted understanding of the role of telcos in addressing the digital divide in South Africa. These theoretical frameworks guided the research design, data collection, and analysis, enabling a comprehensive exploration of the challenges, opportunities, and strategies in the telecommunications sector.

Table 2.1:

Consistency Table: Research Questions and Propositions

RQ No.	State Research Question or Objective	Prop/hyp No.	State Proposition or Hypothesis
1	What is the role of Telcos in bridging the digital divide?	1	
1.1	What is the digital divide internationally and nationally?	1.1	The existence of the digital divide has a significant impact on society.
1.2	The role of business in society internationally and nationally?	1.2	Businesses have a crucial role in society, and their significance lies in their involvement in addressing societal needs and challenges, encompassing a range of responsibilities and activities

1.3	The role of Telcos in society internationally and nationally?	2	Telcos have distinct roles in society, and their contributions are vital to addressing societal needs and playing active roles in various aspects of community life.
1.4	The role of Telcos in bridging the digital divide internationally and nationally		Telcos have made significant strides, yet face ongoing challenges in their efforts to address societal needs. Identifying and overcoming hurdles will be essential for their continued progress, and collaborative strategies may pave the way for future success.

2.8 Conclusion of Literature Review

It is evident from this review that bridging the digital divide and the role Telcos play in bridging that divide is critical to the success of a forward-moving society, one that has inclusion when it comes to connectivity. The aim was to guide and spark a further investigation into the topics explored and hopefully unlock opportunities and quick wins that Telcos could adopt in assisting with bridging the divide.

Where the cost to connect is an issue, there should be ways to address that and ensure that customers are being educated on the different ways to consume. Where access to network coverage or devices is an issue, addressing it will be a collective effort from business, government and society. Where education on the benefit of consuming is our main hurdle, this could be bridged by education and skills training. Showing the benefit, exploring the options, and working on overcoming the hurdles faced from a Telco’s point of view alone will not solve the problem.

To continue to evolve, Africa's telecoms market and its broader digital economy need to continue to grow. Smartphones and connected devices need to be more accessible to end-users. African-based operators and manufacturers can follow in the footsteps of Mara. The company launched Mara X and Mara Z in 2019 – both high-quality, affordable handsets manufactured in Rwanda (Medley, 2019). Moves such as these allow African businesses and entrepreneurs to benefit from the continent's raw resources and its evolving telecoms infrastructure. An increase in smartphone penetration across Africa will also drive demand for roaming services, enabling those travelling to and throughout African countries to access the same quality of service as they do in their home countries. A more connected continent will, in turn, help to attract investment in Africa's expanding IoT (internet of things) and telecoms sector and encourage competition among new global players keen to capitalise on its digital economy (Cisco, 2020; Medley, 2019).

Collaboration is the only route to success. Digital players offering applications ("apps") and services will rely on interoperability between their apps and the network infrastructure supporting them. Therefore, the market for application programming interface (API) tools for cost-effective global messaging, fraud prevention, and authentication solutions will increase to bridge the gap. Protecting revenues can no longer be about merely fending off the competition. Instead, the industry – including vertical markets – must collaborate and actively find ways of adding value to both their business and their end-users. Operators can unlock the benefits of a truly connected world, whether that is through launching IoT propositions and creating new revenue streams or launching next-generation communications services via the cloud (Cisco, 2020).

Reduce costs: The high cost of the latest technology, internet access and electricity has left many South African without connectivity. Some companies could help by offering financial aid to low-income areas so that they can afford the technology.

Education: There are population groups within South Africa that have limited understanding and knowledge of how technology works. We could argue that this is an issue for the education system; however, many schools do not have the

technology to teach students how to embrace this. Private sector companies could donate computers to low-income schools and also donate community service hours to implement training for educators so they can in turn teach students how to work with digital devices.

Improve online content: The language barrier is also a great divide in South Africa, as a country with 11 official languages. People who are not fluent in English find it difficult to find content in their own language. Content should be developed in these languages so that more people can understand the websites they are accessing.

It is balancing profit, societal impact, connecting for a better future, and inclusion for all, all while playing the complex balancing act of keeping all the different parts of a business together. These include network, availability and coverage, the cost to operate as a Telco, the price for consumers to use your service, spectrum availability to load more customers and users onto the network, coverage, education and affordability, as per the Resource-based Stakeholder Theory (Freeman et al., 2021).

Chapter 3: Research Methodology

This chapter documents the research methodology applied in this study. It begins with the research approach used, data collection methods and interpretation thereof. It then discusses the other components of the research method used, sampling, analysis, and instrument used while undertaking this study to explore the role Telcos play in bridging the digital divide in South Africa.

3.1 Qualitative Research Approach

The purpose of this particular study was to explore the perspectives of senior executives within South African Telcos regarding their companies' role in bridging the digital divide.

Qualitative research, according to Banister et al. (1994, p.) is "generally explorative in nature and is concerned with gaining deeper insight and understanding of complexity in phenomena, and investigating subjective experiences, perspectives and meaning, in context".

Denzin and Lincoln (2005, p. 3) propose the following definition for qualitative research:

> Qualitative research is a situated activity that locates the observer in the world. It consists of a set of interpretive, material practices that make the world visible. These practices transform the world … [Qualitative] research involves an interpretive, naturalistic approach to the world. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them.

They furthermore argue that "qualitative researchers study subjects or topics in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them" (Denzin & Lincoln, 2005, p. 3).

A qualitative approach was thus highly suited to the objectives and theoretical perspective of this study.

3.2 Research Design

A qualitative research approach can follow many different designs, such as ethnographic, grounded theory or phenomenological design. For this study, a generic research design was applied.

Generic qualitative studies can typically be described as a qualitative research endeavour aimed at exploring an event, practice or experience for an enhanced understanding. Generic qualitative studies demonstrate the characteristics of a qualitative methodology, although it does not necessarily apply a particular methodological lens (i.e. ethnography, or grounded theory). Caelli et al. (2003, p. 1) define generic qualitative research as “that which is not guided by an explicit or established set of philosophic assumptions in the form of one of the known qualitative methodologies”.

3.3 Data Collection Methods

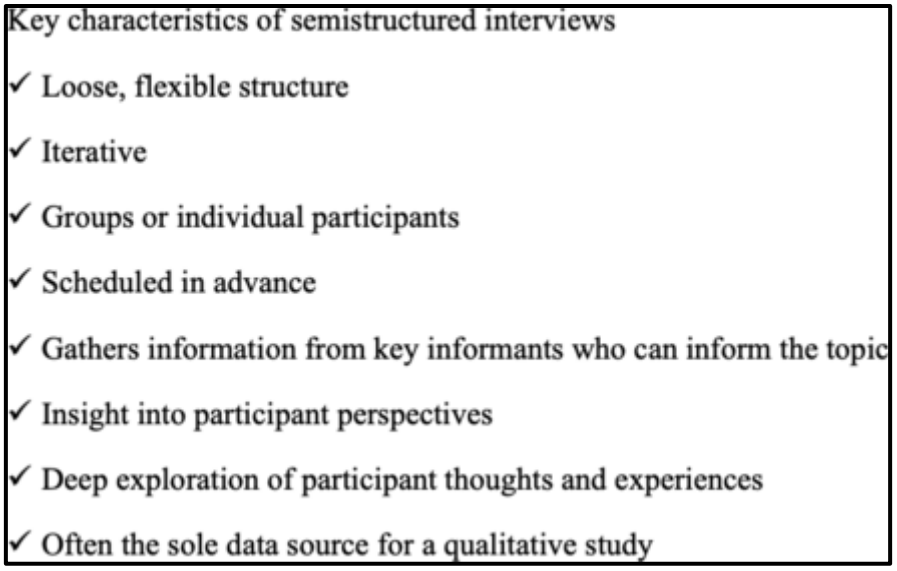
Individual, semi-structured in-depth interviews were used to collect the data for the study.

Semi-structured interviews allow for gathering in-depth information from individuals who are informed about a particular topic, it is flexible and provides the opportunity for probing to obtain insight into participants’ perspectives. Most importantly, using semi-structured interviews facilitate a deep exploration of participants’ thoughts and experiences about a particular topic.

The reason for using one-on-one in-depth semi-structured interviews is explained when we look at the key characteristics of semi-structured interviews (see Figure 3.1.)

Figure 3.1

Key Characteristics of Semi-structured Interviews



Source: DeJonckheere & Vaughn (2019)

The overall purpose of using semi-structured interviews for data collection was to gather information from key informants who have personal experiences, attitudes, perceptions and beliefs related to the topic of interest, in this case industry experts and what they believe to be the role of Telcos in bridging the digital divide. Telco industry experts in South Africa have been asked to share their insights, expertise and personal experiences in the industry.

3.4 Population and sample

3.4.1 Population

The population for this study was senior management from Telcos in South Africa. For the purpose of this study, senior management is defined as people in the C-Suite executive positions who deal in some manner with the interface between ICT service provisioning and the broader societal influence. C-Suite executives were selected as they typically need to deal with the interrelationship between business and society from a strategic business perspective, effectively covering the entire business operations.

The sampling frame of the study was Telco executives from the major Telcos in South Africa.

Purposive sampling was applied in the selection of the basis and nature of the study, specifically relating to Telcos' role and executives in these business units. It was decided to select three or four executives in each business unit within the four Telcos in South Africa. Thematic saturation was applied when doing sampling.

3.4.2 Sample and Sampling method

The study employed purposive sampling in selecting and inviting C-Suite executives to participate in the study. Also known as purposive and selective sampling, purposeful sampling is a sampling technique that qualitative researchers use to recruit participants who can provide in-depth and detailed information about the phenomenon under investigation (Smith et al., 2009). Purposeful sampling is congruent with the generic qualitative approach (Cooper & Endacott, 2007).

In this study, C-Suite Telco executives were purposefully selected to explore the role of Telcos in bridging the digital divide. C-Suite executives were recruited as research participants as they are dealing with the topic of digital inclusion. It was also about understanding how they feel about the role that Telcos should be playing and the issues related to this topic. The following criteria were applied in selecting participants for this study:

- Work experience: 10 years or more experience.
- Telco experience: Telco experience at C-Suite level.

Demographic information of the participants is provided in Table 3.1.

The participants were identified and reached via e-mail as a result of personal contacts. Participants, and anyone they referred to during interviews, were given pseudonyms, in respect of the ethical mandates for anonymity, privacy and confidentiality.

- Sales distribution and Marketing: - The Sales and marketing teams typically would need to drive this, getting new customers and retaining old customers are key.
- Network operations: - The Network teams are typically at the heart of operations, dealing with capacity issues and connectivity.
- Finance: – Finance team would have the benefit vs cost factor and realised returns.
- CSI (corporate social investment): – The purpose of connecting more to the internet and why the Telco would do it other than profits and experience for existing customers.

The criterion used to determine the sample size is saturation, which refers to the point during the data gathering process where gathering more information or data does not reveal new properties (Charmaz, 2006; Glaser & Strauss, 1967). At such point, the research can progress towards developing themes of a particular category. After every interview, transcription took place to help in the data collection process and to assist in highlighting theoretical saturation. The interviewing process was concluded after eight interviews as the point of saturation was reached.

3.5 The Research Instrument

The study applied semi-structured in-depth interviews. The interview scheduling consisted of mostly open-ended questions as this allowed the researcher to take a holistic and comprehensive look at the issues being studied. The interview schedule also allowed for probing questions, requesting respondents to provide more detail and expand on their opinions and reflections.

The benefit of using open ended-questions allowed the opportunity to get real feedback from the ground up, not pushing any narrative but rather giving freedom to provide deep meaningful insights.

Real interesting insights were gathered from theses interviews, offering a unique perspective on the problem faced by Telcos in South Africa.

The interview schedule covered the following themes:

The interviews attempted to gain perspectives on the role of Telcos in addressing the digital divide. The interview schedule is provided in the Appendix 1, and the analysis revealed themes that emerged from the responses to the following questions:

1. Can you tell me a bit about your experience in the Telco industry?
2. What are the current practices of South African Telcos in bridging the digital divide in South Africa?

   Probe for:

   a. Have you seen good initiatives from anyone in South Africa? Why would you describe it as successful?
   b. Failed initiatives and why?
   c. Could we achieve more if the industry worked together?
3. What role, in your opinion, should the Telco industry play in bridging the digital divide, if any?

   Probe for:

   a. Do you believe that it should be a collective effort or a company-specific focus?
4. What are the current practices of South African Telcos in bridging the digital divide in South Africa?

   Probe for:

   a. Have you seen good initiatives from anyone in South Africa? Why would you describe it as successful?
   b. Failed initiatives and why?
   c. Could we achieve more if the industry worked together?
5. What in your opinion, is the motivation of Telcos for addressing the digital divide (if they are involved in this endeavour)?

   Probe for:

   a. What would be the biggest reason for a Telco to address the digital divide?
   b. How do you manage the balance between profit and purpose?
   c. Any policy or regulatory benefits?

6. What in your view are the key issues and concerns that Telcos experience in terms of addressing the digital divide?
   Probe for the following dimensions
   a. Do you believe these are unique issues to your Telco?
   b. What would be your first concern you would tackle if everyone worked together to bridge the divide?
   c. Are there any regulatory, policy or financial constraints?
7. What, in your opinion, are the benefits that Telcos can derive from pursuing digital inclusion initiatives?
   Probe for the following dimensions
   a. Potentially successful initiatives and the benefits (What is the best initiatives that you have seen/done to address the divide?)
   b. What benefit would a Telco get from bridging the divide?
8. The effect of a digital inclusive society on the economy and Telcos.
   Can you please provide your perspective on the following aspects?
   a. Are you of the opinion that a digital active society in South Africa is a possibility? Please explain.
   b. Do you believe that a digital active society would have a positive effect on the economy? Please elaborate.
   c. How would a digital inclusive society benefit society? Please elaborate.
   d. In your view, do you think that Telcos should collaborate?

8.1 If yes, what do you think can and should be done to stimulate collaboration amongst Telcos to address the digital divide?

The complete interview schedule is attached as Appendix 1.

3.6 Procedure for Data Collection

Qualitative research allows for various methods of data collection. Phenomenological studies, seeking to gain insight into perceptions and the meanings attributed to individual lived experiences, are particularly well suited to in-depth interviews (Creswell, 2007). This was the method of data collection selected

in this study. The experience and perceptions, along with practical career experience of the participants, give a deep insight into the current and previous initiatives used in the industry.

3.6.1 Procedure involved in Data Collection

Given the exploratory nature of the study and the need to allow each respondent to speak freely, a semi-structured interview was deemed fitting. Reinharz (1992, as cited in Fisher & Embree, 2000, p. 21) contends that the use of semi-structured interviews helps obtain information on the lived experiences and industry standards used.

The researcher first identified the list of respondents for the study, based on experience in the field, as well as level of involvement in the business. The prospective participants needed to meet a specific demographic profile and would have to be involved in strategic decisions for their companies. Eight Telco executives agreed to the study and provided insights during the interviews, as well as their personal experiences in the industry.

Scheduled interviews with relevant parties, between 25 minutes and 50 minutes, on Teams platform, were conducted. This allowed for the recording of the interviews to be stored and shared with both parties, as well as making it easy to reach all the respondents rather than driving to meet them individually. The interviews were recorded and the recordings subsequently transcribed. The first two transcriptions were done by the researcher. Being cognisant of time constraints, and given the number of participants, interviews, and the length of the recordings, the decision was made to employ a professional to complete the transcriptions of the remainder of the recordings. The researcher then checked each of the received transcriptions against the audio-recordings to ensure their accuracy.

The data was stored on the researcher's computer and imported to the qualitative analysis computer software, ATLAS.ti, which the researcher had been trained to

use. The coding and data analysis process (described in the section below) were completed through the use of this software.

As is the case in phenomenological interviews, the questions were “directed to the participant’s experiences, expertise, about the theme in question” (Welman & Kruger, 1999, p. 196, cited in Groenewald, 2004). In this case, questions related to the objectives of the study and thus focused on the themes of their perceptions and experiences related to digital divide and how Telcos could play a role in bridging the divide. These areas were explored via open-ended questions, which are suited to phenomenological interviews as they maximise discovery and description and enable the researcher to access participants’ ideas and descriptions (Fisher & Embree, 2000). The interview schedule is presented in Appendix A. Some of the questions could be criticised as “forcing the data” by introducing preconceived aspects of the experience.

In an attempt to help set the participants at ease, the first question asked was typically “Can you tell me a little bit about yourself and your experience in the Telco industry?” The interviewees were treated as individuals with a wealth of knowledge in their field of expertise (telecommunication industry) Questions relating to both of these aspects were intentionally posed in order to a) gain insight into their environments, and b) allow those who seemed nervous to share their own experiences, to grow comfortable in discussion. These were attempts to establish rapport, which Miller and Tewksbury (2001, p. 55) explained:

Becoming trusted and seen as someone with whom research participants are comfortable spending time, talking and sharing their lives is called “establishing rapport”. In order for a researcher to truly understand the world from the perspectives of those being studied and to see how persons being studied think about their world, it is critically important for rapport to be established.

Another way in which rapport was established was by approaching the interview schedule as a guide, rather than a rigid, ordered list. Introducing questions where they seemed relevant to the conversation created the feel of a flowing social

interaction. Participants were allowed to guide the interviews and digress into unexpected directions. This approach led to considerable (and often unexpected) insight on the research topic.

These techniques also relate to the attempt to minimise the traditional hierarchical nature of interviews, where the respondent is in a subordinate position (Fontana & Frey, 1994). Fontana and Frey (1994, p. 369) argue that the traditional style of interview in which the interviewer is friendly and pleasant, yet closed off to voicing opinions or answering questions, was simply "a ruse to gain the trust and confidence of the respondent without reciprocating in any way … What seems to be a conversation is really a one-way pseudo-conversation."

Captured information and data needed

Formulated and analysed data captured, the analysis began with multiple readings of the first transcript. During this process, comments were made in the left-hand margin to note what is significant or interesting about what the respondent said. This process is flexible and could include summarising, drawing connections, noting contradictions or making preliminary interpretations. The researcher then created emerging themes in the other margin, based on the initial comments. The wording of the themes should allow one to draw theoretical connections while still be grounded in the particularity of the text.

Drew conclusion from data collected and supporting research done

Table 3.1

Teams Interviews with Research Participants

Numerical Identifier	Participant	Date of Interview	Duration
1	TT	20-Jan-22	34 min
2	MS	26-Jan-22	18 min
3	LvB	01-Feb-22	32 min
4	J	08-Feb-22	26 min
5	DD	23-Feb-22	19 min

6	NP	23-Feb-22	20 min
7	AL	03-Mar-22	19 min
8	MB	03-Mar-22	30 min

3.7 Data Analysis and Interpretation

The raw data were analysed and interpreted using thematic content analysis. According to Mayring (2000), a qualitative content analysis strategy is a “bundle of techniques or systematic text analysis”. According to Bryman (2012), qualitative content analysis is a process that is systematic and replicable. It involves reducing texts and documents into themes based on valid inference, comparison, and interpretation. As a result, a more interpretive approach is required. In addition, it is very transparent, and the coding scheme and sampling procedures can allow for further follow-up studies. Boyatzis (1998) mentions that themes can be developed by using an inductive method. This approach was used since there were derived benefits which included the fact that it did allow for large amounts of data to be reduced and translated into text. The research questions posed to the participants were used to formulate codes which were derived from the responses. These were categorised to formulate themes. (Korstjens & Moser, 2017)

The following process was followed to perform the data analysis:

- Transcription of the interviews: First, transcribe the audio or video-recordings of the semi-structured interviews into written text in order to analyse the data.
- Coding of the data: Read through the transcribed interviews and identify patterns or themes in the responses. Use codes or labels to categorise the responses according to these themes. This process is known as "open coding" (Strauss & Corbin, 1990).
- Identification of sub-categories: Within each theme, identify sub-categories or sub-themes that further specify the responses. This process is known as "axial coding" (Strauss & Corbin, 1990).
- Selection of representative quotes: Select a few representative quotes from the responses that illustrate each theme or sub-category. These quotes will be useful to provide examples in the analysis.

- Analysis of the data: Use the themes, sub-categories, and representative quotes to analyse the data and draw conclusions about the research question or topic of interest.

3.8 Limitations of the Study

The study experienced the following limitations:

- Sample bias: The study was limited by sample bias, as the study only included participants from the Telco industry as the questions were centred around the role Telcos can play in bridging the digital divide, and this may not be representative of the entire population. However, the questions posed were what can the Telcos do (Van Dijk, 2005).
- Measurement bias: The study might have been limited by measurement bias, meaning the methods used to measure the role Telcos play in bridging the digital divide. Some studies may only measure access to the internet, but not the quality or reliability of the connection (Warschauer & Matuchniak, 2010).
- Complexity: The digital divide can be a complex phenomenon, which may be influenced by multiple factors such as socio-economic status, education, age, race, and others. For this reason the focus of the study was on the complete ecosystem with regard to Telcos and the role they play.

3.9 Ensuring quality: Transferability and Dependability

This qualitative study ensured quality assurance of the research process and reporting of the findings, by means of demonstrating sensitivity to the context, commitment and rigour in terms of the research process (Yardley, 2006), while particular attention was paid to ensuring credibility and dependability.

Being sensitive to context can include being considerate of the research setting in which the study is situated, the material obtained from the research participants, and the relevant literature. Sensitivity to context should occur throughout the research study, particularly in interacting with the participants and in taking care in the analysis of data (Lincoln & Guba, 1986). The researcher's understanding of the particular context within which the research participants found themselves and the

involvement in the digital inclusion context, contributes towards the necessary sensitivity during the interviews and analysis of the data. The steps as outlined in the proposal were followed with rigour and commitment.

3.9.1 Transferability and Dependability

Dependability refers to the stability of the results over time. It measures the extent to which the study's results would be similar if the study were to be repeated at a later point in time. If a study has high dependability, it means that the results obtained would be similar if the study were to be repeated at a later point in time. Dependability can be assessed by using techniques such as longitudinal studies or by using historical data (DeVellis, 2017).

To ensure dependability in a study, the following steps were taken:

- The same procedures were consistently applied in the sampling, interviewing and data analysis steps of the study to ensure that the study's results are consistent and stable over time (DeVellis, 2017).
- Semi-structured open interviews were conducted with the participants, all with the same sets of questions, gaining insights from the industry experts.
- Document everything: Documenting everything, including the study's procedures, measures, and data, to assist the dependability of the results by making it possible to replicate the study and by providing a record of the study's methods (Trochim, 2006).
- Report data fully and transparently: Reporting data fully and transparently, including any limitations or potential sources of bias, to increase the dependability and credibility of the study (Creswell & Creswell, 2018).

Transferability refers to the applicability of the research to other contexts and participants. To maximise transferability, detailed descriptions were provided of research participants' views and opinions as they related to the various themes (Lincoln & Guba, 1986).

All of these steps are aimed at ensuring that the study's results are consistent and stable over time.

3.10 Demographic Profile of Respondents

C-Suite executives from three out of the four Telcos in South Africa participated in the study. Getting a view from three of the four Telcos gave a complete overview from most of the Telco market. The goal and customer base are mostly similar with the same issues in the marketplace that are faced across the board. Giving an overview and plan from these three Telcos allowed for better understanding of the landscape and common roadblocks and hurdles.

The participants had to meet the following criteria:

- Telco industry experts.
- Minimum 10 years' experience in their field.
- South African Telco experts.

3.11 Researcher Bias

Researcher bias in the study needed to be managed with care to ensure that the emphasis was based on trust. Trust was the backbone of the study, and the only way to secure trust by other Telcos was to address the following aspects.

This study is not aimed at benefiting any specific Telco, but rather society, as the goal was to ensure customers and the broader society would be in a better place when it comes to the digital divide.

The study and the outcome will be made public, and the aim again is to ensure transparency and hopefully provoke further discussion and study to help the industry and consumers to bridge the digital divide.

Working on the UN sustainable goals for 2030, inclusion for all, is a worldwide goal and something that everyone should be focused on. As per the UN General Assembly and strategy 2030 transforming the world (UNdocs, 2019). The main goal is to ultimately have an inclusive society when it comes to connectivity.

The reluctance of Telcos to participate was a possibility that could be experienced, hence the reasoning of why this is important to the broader society and how this ties into the UN General Assembly and 2030 strategy, as can be seen in UNdocs (2019), was explained. Digital divide is a global problem that needs to be assessed and addressed as a collective.

3.11 Ethical Considerations

Three ethical considerations of research, as pointed out by Fontana and Fey (1994, p. 373) include informed consent, protection from harm and right to privacy. Some of the critical ethical considerations relevant to the study have already been highlighted earlier in this chapter, including the inherent power relations in interviews and the tendency to treat participants as “objects”, “as field-workers we need to exercise common sense and moral responsibility, and, we would like to add, to our subjects first, to the study next, and to ourselves last”. Signed copies of the agreement for both participant and researcher are included in Appendices 2 and 3.

Chapter 4: Presentation of Findings

4.1 Introduction

This chapter presents the findings from the data collection procedure covered in Chapter 3. The participants' demographic profiles are presented in Table 4.1 as contextual background from which the participants' perspectives were conveyed. The categories and themes that emerged from the data analysis procedure are presented in Table 4.2, and this chapter follows a similar structure to present the findings in an intertwined manner.

The primary research question that guided the study was defined as follows:

What is the perceived role of Telcos in bridging the digital divide?

The secondary research questions in support of the main research question included the following:

- What are the current practices of Telcos in bridging the digital divide in South Africa?
- What is the motivation of Telcos for addressing the digital divide?
- What are the key issues and concerns that Telcos experience in terms of addressing the digital divide?
- What are the benefits for Telcos in pursuing these initiatives?

This chapter consists of the following sub-sections:

- Section 4.2 Demographic Profiles
- Section 4.3 Present findings for RSQ 1.1
- Section 4.4 Present findings for RSQ 1.2
- Section 4.5 Present findings for RSQ 1.3
- Section 4.6 Present findings for RSQ 1.4

4.2 Demographic Profiles

This section presents the demographic split of the participants listed in Table 3.1. The initial version was presented in Chapter 3. However, Table 4.2 highlights the years of experience that these participants have in the telecommunications industry, as well as their current titles. It is important to note that one of the four Telcos opted not to participate in the study despite numerous attempts at obtaining respondents for the study.

Table 4.1

Years of Experience of Participants

Numerical Identifier	Participant	Years of experience in industry	Current title
1	TT	26 years	Managing Executive
2	MS	24 years	Managing Executive
3	LvB	26 years	Chief Executive Officer
4	J	27 years	Chief Officer
5	DD	4 years	Head of Digital
6	NP	18 years	Executive Head
7	AL	26 years	National Manager
8	MB	20 years	Executive Head

4.3 Themes and Sub-themes

The approach employed to develop themes in this study was inductive.

Rationale:

The inductive approach was chosen for several reasons in the context of this research. Firstly, the study aimed to explore the role of telcos in bridging the digital divide in South Africa, a topic with multifaceted dimensions and potentially unexplored nuances. Inductive thematic analysis allowed for an open and flexible exploration of the data, enabling the emergence of themes directly from the data itself without imposing preconceived categories or concepts.

Secondly, the inductive approach was well-suited to capture the diverse perspectives, experiences, and challenges faced by stakeholders within the telecommunications sector and South African society. It provided the opportunity to derive themes from participants' narratives, observations, and responses, ensuring that the analysis remained grounded in the participants' voices and experiences.

Additionally, given the complexity of the digital divide and the evolving nature of the telecommunications industry, an inductive approach offered the flexibility to adapt to unexpected findings and novel insights. This was essential to comprehensively understand the role of telcos in addressing the digital divide, including any innovative practices or unique challenges that may not have been anticipated.

In summary, the inductive approach was chosen as it aligned with the exploratory nature of the research, allowed for the emergence of themes from the data itself, and provided the flexibility needed to capture the richness and diversity of perspectives within the study. It ensured that the analysis was data-driven and grounded in the context of the research, making it well-suited for the comprehensive exploration of the research question.

The themes and sub-themes that emerged from the interviews conducted with the above-mentioned participants are highlighted as follows:

- What are the current practices of Telcos in bridging the digital divide in South Africa, RSQ1: exploring what the current practices are gives insight into the successful and not so successful practices and possible gaps that need to be filled.

From the interviews and subsequent research done, the themes that have emerged start with Theme 1 “Current practices of South African Telcos in bridging the digital divide”. This is a comprehensive way of exploring the current practices and initiatives taken in South Africa.

- What are the key issues and concerns that Telcos experience in terms of addressing the digital divide? RSQ3 is explored in Theme 2 that exposes the issues Telcos face in addressing the divide.

This leads us into Theme 2, “Key issues and concerns that Telcos experience in terms of addressing the digital divide”. Why are the current practices not working or have not been effective in bridging the divide? These key issues are explored to establish if these are indeed universal issues or only experienced by some rather than the broader group.

- What are the benefits for Telcos in pursuing these initiatives? RSQ 4 is linked to the success stories in Theme 3 and how that could lead to benefits for Telcos.

Expanding on the current practices and key issues, further investigation was done to look at Theme 3, “Success stories of effectively addressing the digital divide”, what success stories have any of the participants heard about, read about or experienced that have seen the divide being bridged effectively. It allowed for further exploring of these initiatives to see if they could work in South Africa. Building on that, the sub-theme emerged, namely “Perceived benefits of bridging the digital divide”. What benefit this would hold for the broader society moved into the next sub-theme, “Benefits for Telcos if digital divide is bridged successfully”, or what benefit Telcos would get from pushing to get the divide bridged. It finally ended with the last sub-theme, “South Africa’s perceived ability to bridge the digital divide successfully”, namely our ability as a country to bridge the divide successfully given the above-mentioned themes and sub-themes.

- What is the motivation of Telcos for addressing the digital divide? RSQ2 ties in with Theme 4 and the importance of working together and the benefits that it would hold for all Telcos. Working together would be the driver as this would lead to greater reach and less capital expenditure being used.

Building onto that, Theme 4 emerged: “Importance of cooperation/ecosystem/ multiple stakeholders working together pooling resources”. The digital divide is not one element alone and requires multiple inputs and cooperation to bridge the divide effectively. This lead to our final theme, Theme 5: “Recommendations to address the digital divide”. Using the aforementioned themes and information at hand, the natural step would be to provide some recommendations to address the divide looking at all the relevant and accessible information.

In summary to the overall research question: What is the perceived role of Telcos in bridging the digital divide?, it became apparent that Telcos play an important role in bridging the digital divide by providing access to the internet and communication technology to communities that are otherwise disconnected. This involves building and maintaining infrastructure in remote or underserved areas, offering affordable services and devices, and implementing programmes to educate and empower users to take advantage of digital opportunities. By closing the digital divide, Telcos can help to create a more equitable and connected world where everyone can benefit from the social, economic, and educational opportunities offered by the digital era.

Table 4.2

Themes and Sub-themes identified

Theme 1:	1.1 Current practices of South African Telcos in bridging the digital divide
	1.2 Success stories of effectively addressing the digital divide
	1.3 Collaboration amongst various stakeholder
Theme 2	Key issues and concerns that Telcos experience in terms of addressing the digital divide
Theme 3 Sub-themes	3.1 Perceived benefits of bridging the digital divide for the country

	3.3 Benefits of Telcos if digital divide is bridged successfully 3.3 South Africa's perceived ability to bridge the digital divide successfully
Theme 4	General comments and recommendations to address the digital divide

4.4 Findings of Research from Participants

4.4.1 Theme 1: Current practices of South African Telcos in bridging the digital divide in South Africa

a) Practices of Telcos

There are several current practices that South African Telcos are using to bridge the digital divide in South Africa. These include, among others, infrastructure sharing, community networks, affordable pricing, digital skills training, investment in rural areas and partnerships with government. Most of the participants agreed on the following actions being used, and at the same time said that all of these are just not enough as they are either not all working in tandem or not working as effectively as possible. Participant 3 stated: "I think the government from a regulatory and legal perspective have got a great responsibility to actually make it a make it beneficial for the Telcos to collaborate"

Infrastructure sharing: Telcos are sharing infrastructure such as towers, buildings, and fibre networks to expand network coverage and reduce costs. According to Participant 1, "That is one policy, which I think we tried to implement the policy. It did not really yield the results".

Community networks: Telcos are working with community organisations to build and operate community networks that provide internet access in underserved areas. Participant 3 stated:

> Current policy or the broadband strategy that was gazetted in 2012, SA connect. So, the policy itself, the aim was to bring connectivity to the rural

areas and what motivated the policy was that the MNOs they usually will go to urban areas affluent area, ignored the rural areas.

Affordable pricing: Telcos are offering affordable pricing plans and devices to make internet access more affordable for low-income communities. Participant 7 explained, “So that that to me is the biggest most significant move in the last couple of years, is that everybody thought that the contract business would be the biggest always and that’s not proving to be the case”.

Digital skills training: Telcos are providing digital skills training to individuals and communities to help them take full advantage of the internet. According to Participant 3, “I think it is really a case of timing and education, and actually how the, how the customer will actually be able to adopt that technology”.

Investment in rural areas: Telcos are investing in networks and infrastructure in rural areas to expand internet access to underserved communities. Participant 1 offered that “The intent was for government to act as a in an anchor tenant for about 10 years. So that they can encourage the MNOs (Mobile service provider company) to invest in these deep rural areas.”

Partnerships with government and non-profit organisations: Telcos are partnering with government and non-profit organisations to support programmes and initiatives aimed at increasing internet access for underserved communities. Participant 1 explained: “… complete value chain, you can’t just take in the network without making sure there is a demand for their devices”.

It is worth noting that the telecoms industry in South Africa is highly competitive, and several companies are also involved in similar initiatives, such as providing free Wi-Fi hotspots in public places, providing free educational content and online resources, and partnering with educational institutions to provide internet access and digital skills training to students. There are good strides being made to move in the right direction.

All participants agreed that everyone needs to work together, all the participants in the ecosystem, the network providers, the government, regulator, device manufacturers, and retail outlets, and that a collaborative effort is needed to address the digital divide.

b) Success stories of addressing the digital divide effectively

The majority of the respondents offered anecdotal evidence in support of their digital inclusion efforts and initiatives within communities. Examples of success stories or achievements range from infrastructure to sales and marketing initiatives. Respondents were clearly proud of the achievements of their respective companies in this regard.

Respondents 2 and 7 described the launch of the Digital Villages programmes. One example of a successful effort to address the digital divide in South Africa is the "Digital Villages" programme. This programme, launched in 2002 by the non-profit organisation, the South African NGO Coalition, aimed to provide communities in rural and underserved areas with access to technology and digital skills training. The programme established community centres equipped with computers, internet access, and training programmes in areas such as basic computer skills, e-commerce, and digital literacy.

Another example is the "Project Isizwe", which is a non-profit organisation that works to provide free Wi-Fi to low-income communities in South Africa. The organisation partners with municipalities and private companies to provide free Wi-Fi in public spaces such as parks, libraries, and clinics. The project aims to improve access to information and economic opportunities for residents of these communities, and has been successful in providing free Wi-Fi to over 2 million people in over 400 towns and cities across the country. Participant 6 expanded, “And you can mention the likes of Isizwe, I think the one for Junior, Allen, North Krain, there was also another successful project to bring connectivity or data connectivity to the townships”.

Most of the participants agreed that the South African government has also been actively working to address the digital divide in the country. The government has

committed to creating a national broadband plan to increase access to high-speed internet in underserved areas, and has also launched programmes to promote digital literacy and skills development among youth and low-income individuals.

> Where all MNOs, they come together as a consortium that they used to within the policy was a consortium whereby we all come [company], [company] and everybody who's got money put it inside there, and the government will allocate the 700 megahertz spectrum or 800. Therefore, we all share the pie. Yeah, it's still an open ended question, because it has never been that way. (Participant 1)

c) Importance of collaboration amongst various stakeholders

All of the respondents highlighted or pointed to the importance of cooperation and partnerships between multiple stakeholders that are essential for addressing the digital divide and ensuring that all individuals have equal access to technology and the opportunities it provides. As Participant 1 explained, “For me, what I've seen missing was private sector and public sector coming to get the Triple P model, Public Private Partnership”.

The majority of the respondents indicated that when different organisations and stakeholders work together, they can pool their resources, expertise, and networks to create more comprehensive and sustainable solutions. Collaboration can also help to leverage additional funding and support from governments, foundations, and the private sector. According to Participant 3, “I think the government from a regulatory and legal perspective has got a great responsibility to actually make it a, make it beneficial for the Telcos to collaborate”.

For example, in the case of the "Digital Villages" programme, the South African NGO Coalition partnered with the private sector, local government, and other organisations to establish community centres and provide training programmes. Similarly, Project Isizwe partners with municipalities and private companies to provide free Wi-Fi in low-income communities.

The respondents also indicated that when multiple stakeholders are involved in a project, there is a greater chance of having a diverse perspective, which could lead to better problem-solving and more effective solutions. Participant 3 stated, “I think the government from a regulatory and legal perspective has got a great responsibility to actually make it a, make it beneficial for the Telcos to collaborate”.

In summary, cooperation and partnerships between multiple stakeholders are vital in addressing the digital divide. By pooling resources, expertise, and networks, organisations can create more comprehensive and sustainable solutions, leverage additional funding and support, and have a more diverse perspective.

4.4.2 Theme 2: Key Issues and Concerns that Telcos Experience in terms of addressing the Digital Divide

The key issues and concerns that Telcos face are complex and have a multi-layered approach that needs to be addressed. The following sub-themes were identified, namely a lack of infrastructure, and high cost. These are discussed below.

A lack of infrastructure: Telcos often face challenges in terms of building and maintaining infrastructure in underserved areas, particularly in rural areas where the population density is low. This can make it difficult to provide internet access to these communities. Participant 2 stated that “The, the primary stumbling block actually, is putting up a base station in a deep rural area”.

High costs: Building and maintaining infrastructure in underserved areas can be costly, and Telcos often struggle to make a profit while providing internet access to low-income communities. Participant 3 opined, “I think one of the one of the biggest challenges we have in South Africa is access to data, access to connectivity, specifically for looking at rural areas”.

A lack of government support: Telcos often require government support in terms of subsidies and regulations to help them build and maintain infrastructure in underserved areas. However, Telcos often face challenges in terms of coordinating

with government agencies and obtaining the necessary funding and support. According to Participant 1, “Government will allocate the 700-megahertz spectrum or 800. Therefore, we all share the pie. Yeah, it’s still an open-ended question, because it has never been that way.”

A lack of digital skills: Telcos face challenges in terms of providing internet access to communities that lack the necessary digital skills to take full advantage of the internet. This can make it difficult for Telcos to generate revenue from these communities. Participant 3 said, “Telcos have a capability to drive not only connectivity, but every ability to drive, education, awareness, access to information that’ll improve people’s lives”.

Limited access to finance: Telcos often face challenges in terms of obtaining financing to build and maintain infrastructure and provide internet access to underserved communities. Participant 2 stated, “If we can’t put a base station, there can we give them satellite connectivities? Well, no, because the cost of satellite data is even higher than mobile data.”

These challenges and concerns reflect the complexity of addressing the digital divide in South Africa, which requires not only the efforts of Telcos, but also the support of government, the private sector, and communities.

4.4.3 Theme 3: Perceived benefits of bridging the digital divide

a) Perceived benefits

Bridging the digital divide can have a wide range of benefits for individuals, communities, and society as a whole. Some of the key perceived benefits include:

Improved access to information and education: With access to the internet and digital technology, individuals could access a wide range of information and educational resources that could help to improve their knowledge and skills.

Increased economic opportunities: Digital technology could provide individuals with new opportunities for employment, entrepreneurship, and economic growth, particularly in rural and underserved areas.

Improved healthcare and social services: Digital technology can be used to improve access to healthcare and social services, particularly in remote and underserved areas. As Participant 1 said, “The doctor here in [place] is able to operate someone in the rural areas. People do not have to drive or travel.”

Enhanced civic engagement and participation: Digital technology can be used to improve communication and participation in civic activities and decision-making processes.

Reduced social and economic inequalities: Bridging the digital divide could help to reduce social and economic inequalities by providing equal access to technology and its opportunities. Participant 3 explained this as: “… access to devices, access to 3G, 4G, and even potentially 5G connections. It's the adoption of smartphone penetration in South Africa”.

Improved quality of life: With access to technology, individuals could improve their quality of life by connecting with others, accessing information and services, and participating in the digital economy. Participant 3 added: “… would be significant. So there would be a growth in your customer base, a growth in your engagement of your users, you'll be able to actually uplift the entire community.”

Positive impact on the overall economy: Digital technology could drive innovation and productivity in the economy, create jobs and contribute to the overall growth.

Improved public services: Digital technology can be used to make public services more efficient, cost-effective, and accessible to all citizens.

In summary, bridging the digital divide can have many positive benefits, including improved access to information and education, increased economic opportunities,

improved healthcare and social services, enhanced civic engagement and participation, reduced social and economic inequalities, improved quality of life and positive impact on overall economy and public services.

b) Benefits for Telcos if digital divide is bridged successfully

If the digital divide is bridged successfully, Telcos can benefit in several ways.

Increased customer base: By providing access to technology and internet in underserved areas, Telcos can expand their customer base and generate new revenue streams. Participants 7 and 3 agreed, and Participant 3 stated: “… would be significant. So there would be a growth in your customer base, a growth in your engagement of your users, you'll be able to actually uplift the entire community.”

Improved network utilisation: With more individuals and communities having access to technology, Telcos could expect to see increased use of their networks and services, leading to improved utilisation and economies of scale.

Enhanced reputation and brand image: Telcos that actively work to bridge the digital divide could enhance their reputation and brand image as socially responsible and community-minded organisations. According to Participant 3, “it'll be a broad benefit to the Telco, the brand will be uplifted, brand love will multiply”.

New business opportunities: Telcos could explore new business opportunities in areas such as mobile banking, e-commerce, and digital services.

Potential cost savings: By providing access to technology in underserved areas, Telcos may be able to reduce the costs associated with extending their networks to these areas. Participant 3 stated: “the most important thing at the end of the day, we're all in business to make revenue and I think it'll be a huge revenue impact”.

Government support: Telcos that actively participate in efforts to bridge the digital divide may receive financial and regulatory support from governments.

Better customer satisfaction: With access to technology, communities can have better access to information, services, and entertainment, which could lead to increased customer satisfaction and loyalty.

In summary, if the digital divide is bridged successfully, Telcos could benefit from an increased customer base, improved network utilisation, enhanced reputation and brand image, new business opportunities, potential cost savings, government support and better customer satisfaction.

c) Perceived ability of South Africa to bridge the digital divide successfully

South Africa has been actively working to bridge the digital divide and has made some progress in recent years, but there are still challenges to be addressed.

One of the major challenges is the lack of infrastructure and internet access in rural and underserved areas. The government has committed to creating a national broadband plan to increase access to high-speed internet in these areas, but the implementation of this plan has been slow and there are still many areas where internet access is limited.

Another challenge is socio-economic inequality, as digital divide is often linked to socio-economic inequality. The country still has a high poverty and unemployment rate, which affect the ability of many individuals to afford technology and internet access. According to Participant 3, “… access to devices, access to 3G, 4G, and even potentially 5G connections. It's the adoption of smartphone penetration in South Africa.”

However, South Africa has implemented several programmes and initiatives that aim to bridge the digital divide, such as the "Digital Villages" programme, Project Isizwe, and the national broadband plan. There are also efforts to promote digital literacy and skills development, and to provide access to technology and internet in public areas such as libraries and clinics.

Additionally, private sector companies, non-profit organisations and civil society groups have also been actively working to bridge the digital divide, through initiatives such as providing free Wi-Fi to low-income communities, and training programmes.

Overall, while there are still challenges to be addressed, South Africa has made progress in bridging the digital divide and has a perceived ability to continue doing so in the future.

4.4.5 Theme 4: "Recommendations to address the digital divide"

Participants were required to reflect on how the current "digital divide" can be improved and these responses are reported as a separate theme. There are several strategies that could be implemented to address the digital divide:

Invest in infrastructure: Building robust and reliable infrastructure, such as high-speed internet networks, is essential for providing access to technology in underserved areas. As Participant 2 said, "And it's actually quite simple. The, the primary stumbling block actually, is putting up a base station in a deep rural area."

Promote digital literacy and skills development: Providing training and education programmes that teach digital skills can help individuals and communities to fully utilise technology and take advantage of the opportunities it provides. Participate 3 opined, "I think it is really a case of timing and education, and actually how the how the customer will actually be able to adopt that technology".

Encourage public-private partnerships: Governments and the private sector can collaborate to provide funding and resources for digital inclusion initiatives. According to Participant 3, "the government from a regulatory and legal perspective has got a great responsibility to actually make it beneficial for the Telcos to collaborate".

Create inclusive policies and regulations: Government policies and regulations can support digital inclusion by promoting competition and innovation in the technology

sector, protecting consumer rights and privacy, and ensuring access to affordable services. Participant 2 stated, “Yeah, so I would, I would say, firstly, I would legislate it, and I'd regulate it. The second thing I’d do is I bring everyone in the ecosystem in.”

Address socio-economic inequalities: Digital divide is often linked to socio-economic inequalities, thus addressing these underlying issues could also help to bridge the digital divide.

Focus on specific groups: Certain groups, such as low-income communities, rural areas, the elderly, disabled, or other marginalised populations may require targeted efforts.

Monitor and evaluate progress: Regularly monitoring and evaluating the effectiveness of digital inclusion initiatives can help to identify areas where additional resources are needed and make adjustments as necessary.

In summary, addressing the digital divide requires a multi-faceted approach that includes investments in infrastructure, education and training, public-private partnerships, inclusive policies, addressing socio-economic inequalities and targeted efforts for specific groups, and regular monitoring and evaluation.

Chapter 5: Discussion of Findings

5.1 Introduction

This chapter begins with a discussion of the research propositions, the five main themes and the various sub-themes that were identified through the data analysis. The objective of this chapter is to answer the four research questions within the context of the literature from the literature review and the results of the study.

5.2 Discussion of Research Question 1

What are the current practices of Telcos in bridging the digital divide in South Africa?

Participating Telcos identified various strategies that have been proposed for bridging the digital divide in South Africa. Some of these include:

- Investing in infrastructure: All participants agreed that this is crucial. Expanding infrastructure, to include internet connectivity and computer laboratories in underserved areas is crucial for ensuring that all citizens have access to the internet. There is no way to bridge the divide without network infrastructure.
- Providing digital literacy training: Many people in South Africa lack the skills needed to effectively use digital technology. Providing digital literacy training will overcome this barrier.
- Encouraging private sector investment: The private sector can play a key role in bridging the digital divide by investing in technology such as handsets, laptops, routers and other devices. It can also create free internet access points via Wi-Fi to enable effortless connection.
- Promoting public-private partnerships: Public-private partnerships can help to leverage the resources, e.g. Orignal Equipment Manufacturer of handsets, provider bandwidth coupled with their expertise of both the government and private sector to expand internet access.

- Investing in mobile technology: Mobile technology, such as smartphones and tablets, can be a cost-effective way to bring internet access to remote and underserved areas.
- Balancing the profit vs purpose theories while bridging the digital divide can be a challenging task. One approach is to adopt a "triple bottom line" approach, which considers the financial, social, and environmental impact of a business or organisation (Elkington, 1997). In terms of bridging the digital divide, this could involve finding ways to make access to technology and the internet financially sustainable, while also addressing social inequalities in access and considering the environmental impact of technology infrastructure.

Another approach is to adopt a "shared value" approach, which involves finding ways to create economic value in a way that also creates value for society and addresses societal problems (Porter & Kramer, 2011). This could involve partnering with organisations or governments to bring internet access to underserved communities, while also finding ways to create financial value through new business models or partnerships.

It is also important to consider the role of regulation and government policy in addressing the digital divide. Government can play a role in creating an enabling environment for the private sector and civil society to bridge the digital divide. Policies such as net neutrality, universal service funds, and spectrum allocation can help to ensure that everyone has access to the internet, regardless of their socio-economic status.

Bridging the digital divide in South Africa has the potential to bring significant benefits to the country and its citizens. According to a report by the World Bank, improved access to digital technologies can contribute to economic growth, job creation, and poverty reduction in developing countries like South Africa. Furthermore, it can also enhance access to education, healthcare, and other public services (World Bank, 2016a).

It is possible to bridge the digital divide in South Africa, but it will require significant investment and effort. According to a report by the A4AI (2016), South Africa ranks 114th out of 190 countries in terms of internet affordability. Factors that contribute to the digital divide in the country include a lack of infrastructure in rural areas, high costs of internet access, and limited access to affordable devices.

However, it is worth mentioning that while the benefits of bridging the digital divide are many, it also requires careful consideration of the potential negative impacts, such as the impact on privacy, security, and access to information (United Nations Development Programme [UNDP], 2020).

In conclusion, bridging the digital divide in South Africa is a complex and multi-faceted challenge that requires sustained investment and effort. Factors that contribute to the digital divide in the country include a lack of infrastructure in rural areas, high costs of internet access, and limited access to affordable devices. The South African government has implemented a number of initiatives, as referenced above. However, more needs to be done in terms of increasing access to affordable internet, digital devices and addressing the underlying socio-economic factors that contribute to the digital divide.

Collaboration between the government, private sector, and civil society seems to be a necessity to bridge the digital divide in South Africa.

5.3 Discussions of Research Question 2

What is the motivation of Telcos for addressing the digital divide?

As reported in Chapter 4, participating Telcos identified various motivations for addressing the digital divide, United Nations (United Nations [UN], 2020). Some of the main reasons are:

- Business growth: By expanding access to ICT, Telcos can increase their customer base and revenue streams. In other words, more people with access to ICT mean more potential customers for Telcos (GSMA, 2017). It is interesting that the GMSA study (2017) on rural development indicates that

digital inclusion efforts of Telcos in rural areas in particular, seem to be a viable strategy to increase its customer base, which in turn will increase the associated revenue streams.

- Social responsibility: Telcos often see themselves as important actors in society and may view it as their responsibility to help bridge the digital divide. They recognise that access to ICT is increasingly important for people to participate in modern society and to access education, healthcare, and other services.
- Regulatory pressure: Governments and regulatory bodies may require Telcos to invest in infrastructure in underserved areas or to provide affordable service to low-income households as part of their licensing agreements.
- Competitive advantage: Telcos may see bridging the digital divide as a way to gain a competitive advantage over other companies in the industry. They may offer more comprehensive service plans, better coverage, or more affordable pricing in underserved areas to attract and retain customers.

The factors identified by participants as motivations for facilitating digital inclusion initiatives seem to align with the report of the UN (2017) and the Federal Communications Commissions (2021).

Overall, the motivations for Telcos to address the digital divide are complex and may include both business and social reasons. By investing in infrastructure and expanding access to ICT, Telcos can help to create a more inclusive and connected society.

5.4 Discussion of Research Question 3

What are the key issues and concerns that Telcos experience in terms of addressing the digital divide?

In conclusion, bridging the digital divide in South Africa is a complex and multi-faceted challenge that requires sustained investment and effort. The digital divide in South Africa is characterised by a lack of infrastructure in rural areas, high costs of

internet access, and limited access to affordable devices. This digital divide has a significant impact on the socio-economic development of the country, as it limits access to education, health, and economic opportunities for the population (A4AI, 2016).

The South African government has implemented a number of initiatives, such as the "Project Isizwe" and the "Digital Classrooms" programme, to increase access to internet and digital devices in disadvantaged areas. The South African government has also implemented a number of initiatives aimed at promoting digital literacy and skills development. For example, the Digital Skills for Africa programme, launched in 2019, aims to provide training in digital skills to 10 million young people across the continent, including in South Africa (Google, 2019). However, these initiatives alone are not sufficient to bridge the digital divide. There is a need for a more comprehensive approach that addresses the underlying socio-economic factors that contribute to the digital divide, such as poverty and income inequality (Motala & Pampallis, 2018).

To bridge the digital divide in South Africa, there is a need for collaboration between the government, private sector, and civil society. The private sector can play a key role in providing affordable internet access and devices, while civil society can help to raise awareness and advocate for policy change (Motala & Pampallis, 2018). Another initiative is the Universal Service and Access Fund (USAF), which was established in 2011 to support the expansion of access to telecommunications services, particularly in rural and underserved areas (ICASA, n.d.). The USAF provides funding for infrastructure development, community access projects, and other initiatives aimed at promoting access to telecommunications services. Additionally, the government must continue to invest in infrastructure and digital skills development to ensure that all South Africans have access to the digital tools and resources they need to participate fully in the digital economy.

5.5 Discussion of Research Question 4

What are the benefits for Telcos in pursuing these initiatives?

Firstly, access to the internet and digital technologies can improve access to education and job opportunities. The internet can provide access to online learning resources, and allows for remote work and telecommuting, which can be particularly beneficial in rural areas where job opportunities may be limited (World Bank, 2021). This can improve economic opportunities for individuals and contribute to reducing poverty in the country.

All participants agree that there are certain benefits that contribute towards the society and that provide sufficient motivation for pursuing the digital divide. These benefits include new market opportunities, competitive advantage, increased brand awareness, and regulatory benefits. These are discussed below in more detail. These benefits are real and reason enough to pursue the digital divide, as per the Federal Communications Commission (2021).

Bridging the digital divide can present numerous benefits for Telcos. This can result in increased revenue and growth opportunities by accessing new and underserved markets (Bertot et al., 2010). Furthermore, Telcos that invest in underserved areas can gain a competitive advantage over their competitors, leading to increased market share and customer loyalty (Hou & Li, 2021). By being seen as leaders in bridging the digital divide, Telcos can increase their brand awareness and reputation, leading to positive customer loyalty and brand image (Girard & Girard, 2014).

In addition to business benefits, there are also regulatory benefits. Telcos that invest in underserved areas may be eligible for subsidies, tax breaks, and favourable licensing conditions (Hou & Li, 2021). Bridging the digital divide can also have a positive social impact on underserved communities. This can help to improve education, healthcare, and other social services in these areas, leading to societal benefits (Warschauer & Matuchniak, 2010).

Moreover, bridging the digital divide requires innovative solutions and new technologies, which can create new opportunities for innovation and technological development (Girard & Girard, 2014). In summary, bridging the digital divide can

offer various benefits for Telcos, including business, regulatory, and societal advantages. Overall, pursuing the digital divide can bring many benefits to Telcos, including new market opportunities, competitive advantages, increased brand awareness, regulatory benefits, social impact, and innovation opportunities.

Pursuing the digital divide can be viewed through the lens of the Resource-based Theory (RBT), which suggests that a firm's resources and capabilities are crucial to achieving a sustainable competitive advantage (Barney, 1991). By investing in bridging the digital divide, Telcos can develop new resources and capabilities that are valuable, rare, inimitable, and non-substitutable (VRIN), which can result in a competitive advantage (Helfat & Peteraf, 2003).

For example, by investing in underserved areas, Telcos can gain access to new and untapped markets, which can be a valuable resource (Bertot et al., 2010). Furthermore, Telcos that invest in new technologies and innovative solutions to bridge the digital divide can create resources that are rare and difficult to imitate (Girard & Girard, 2014). Additionally, by being seen as leaders in bridging the digital divide, Telcos can develop a strong brand image and reputation, which can be non-substitutable and valuable (Helfat & Peteraf, 2003).

Moreover, regulatory benefits such as subsidies and tax breaks can provide Telcos with access to resources that are difficult for competitors to replicate (Hou & Li, 2021). Finally, bridging the digital divide can have a positive social impact, which can be a valuable resource for Telcos, as it can lead to increased customer loyalty and a positive brand image (Warschauer & Matuchniak, 2010).

In conclusion, by pursuing the digital divide, Telcos can develop resources and capabilities that are valuable, rare, inimitable, and non-substitutable, which can lead to a sustainable competitive advantage.

Chapter 6: Conclusion and Recommendations

6.1 Introduction

The study explored the role Telcos play in bridging the digital divide in South Africa. Throughout the research and interview process it became clear that this is a multi-faceted issue that needs to be addressed by all stakeholders within the ecosystem.

Chapters 4 and 5 presented the findings and discussion of the study respectively. This chapter of the study will present the conclusions of this research, provide recommendations to industry stakeholders and make suggestions for future study.

6.2 Conclusion regarding Research Question 1

"What are the current practices of Telcos in bridging the digital divide in SA"

Telcos in South Africa have implemented several practices to bridge the digital divide, including infrastructure investment, affordable pricing, and community engagement.

Telcos in South Africa have taken several steps to bridge the digital divide in the country. These steps include improving internet infrastructure, providing affordable devices and data packages, investing in digital literacy programmes, supporting digital entrepreneurship, and collaborating with government and stakeholders. These practices have the potential to promote digital inclusion and improve access to digital services and resources for all South Africans.

One of the key practices of Telcos in South Africa is improving internet infrastructure. Telcos have invested in fibre optic networks and increased the deployment of 4G and 5G networks to expand coverage in rural areas and improve internet speed and quality.

Telcos have also launched various initiatives to make internet access more affordable and accessible to low-income households by providing discounted data

bundles and affordable smartphones. For example, Vodacom has launched "Just4You", a service that provides customised data, voice, and messaging plans at affordable prices to different segments of its customer base.

Another practice of Telcos in South Africa is investing in digital literacy programmes. Telcos have partnered with community organisations, NGOs, and educational institutions to provide digital literacy training to individuals and communities. These programmes aim to educate people on how to use technology effectively and safely, and improve their digital skills.

Lastly, Telcos have focused on community engagement and outreach to increase digital literacy and promote technology adoption. Telcos in South Africa are also supporting digital entrepreneurship by providing access to resources and training to start and grow online businesses. Telcos have partnered with business incubators and accelerators to support entrepreneurs in the technology sector and help them bring their ideas to market. Telcos such as MTN have launched various community-based initiatives to promote digital inclusion, including sponsoring educational programmes and providing funding for technology-related initiatives.

Furthermore, Telcos are collaborating with government and stakeholders to create policies and programmes that support digital inclusion. Telcos are participating in public-private partnerships and engaging in policy dialogue to share best practices and advocate for regulatory frameworks that promote universal access to telecommunications services.

In conclusion, Telcos in South Africa have taken a proactive approach to bridge the digital divide through various initiatives that prioritise infrastructure investment, affordable pricing, and community engagement. While there is still much work to be done to achieve universal access to digital services, the efforts made by Telcos thus far are promising.

6.3 Conclusion regarding Research Question 2

What is the motivation of Telcos for addressing the digital divide?

The motivation of Telcos for addressing the digital divide in South Africa can be traced back to several factors, including CSR, potential business opportunities, and regulatory pressure.

CSR is an important driver for Telcos in addressing the digital divide. Many Telcos see it as their responsibility to support digital inclusion efforts and promote social development in the countries where they operate. In South Africa, Telcos have engaged in various CSR initiatives to bridge the digital divide, including sponsoring educational programmes and providing funding for technology-related initiatives.

In addition, addressing the digital divide can create potential business opportunities for Telcos. By increasing access to the internet and digital services, Telcos can expand their customer base and generate new revenue streams. In South Africa, Telcos have launched various initiatives to make internet access more affordable and accessible to low-income households, such as providing discounted data bundles and affordable smartphones.

Furthermore, regulatory pressure can also motivate Telcos to address the digital divide. In some cases, regulators may require Telcos to provide universal service obligations to ensure that everyone has access to basic telecommunications services. This can include expanding coverage in rural areas, providing affordable tariffs, and investing in network infrastructure.

In conclusion, the motivation of Telcos for addressing the digital divide in South Africa can be attributed to a combination of CSR, potential business opportunities, and regulatory pressure. By understanding the drivers behind Telcos' digital inclusion efforts, policymakers and stakeholders can identify ways to incentivise Telcos to prioritise digital inclusion and ensure that all South Africans have access to digital services and resources.

6.4 Conclusion regarding Research Question 3

What are the key issues and concerns that Telcos experience in terms of addressing the digital divide?

While Telcos in South Africa have made efforts to bridge the digital divide, they also face several challenges and concerns. The key issues and concerns that Telcos experience in terms of addressing the digital divide in South Africa include infrastructure challenges, affordability, and the urban-rural digital divide.

Infrastructure challenges are a major concern for Telcos in South Africa. The country's vast geography and underdeveloped areas present challenges for expanding network coverage and improving internet speed and quality. Additionally, many rural areas lack the necessary infrastructure to support telecommunications services, including electricity and telecommunications towers. This makes it difficult and costly for Telcos to provide services to these areas.

Affordability is another issue that Telcos face in South Africa. Many people in low-income households cannot afford to purchase devices or data packages to access the internet. The high cost of data is also a barrier to internet access for many South Africans. While Telcos have implemented initiatives to provide affordable devices and data packages, more needs to be done to make internet access more accessible to low-income households.

The urban-rural digital divide is another concern for Telcos in South Africa. Rural areas have lower internet penetration rates than urban areas due to a lack of infrastructure and resources. This creates a digital divide that disproportionately affects rural communities and limits their access to digital services and resources.

Overall, vandalism and theft have a significant impact on Telcos in their efforts to bridge the digital divide. In a host of different ways, disruption of service, increased cost to maintain the current network, and delayed expansion results in a significant investment required to counter the vandalism and theft experienced by South African Telcos.

Load-shedding poses a significant challenge for South African Telcos in their efforts to bridge the digital divide. To name several, the service disruptions to the network. Increased cost to maintain and operate the network, with the biggest contributor the limited capacity as a result of the poor availability on the network.

In conclusion, Telcos in South Africa face several challenges and concerns in terms of addressing the digital divide, such as vandalism and theft, load-shedding, including infrastructure challenges, affordability, and the urban-rural digital divide. Addressing these issues requires a multi-faceted approach that involves collaboration between Telcos, government, and stakeholders to ensure that everyone in South Africa has access to affordable, high-quality telecommunications services.

6.5 Conclusion regarding Research Question 4

What are the benefits for Telcos in pursuing these initiatives?

There are several benefits for Telcos in pursuing initiatives to bridge the digital divide in South Africa. These benefits include increased revenue opportunities, improved brand reputation, and increased customer loyalty.

One of the most significant benefits of bridging the digital divide for Telcos is the potential for increased revenue opportunities. By providing affordable and accessible internet services to underserved communities, Telcos can expand their customer base and increase their revenue streams. Additionally, Telcos that invest in infrastructure development in rural areas may benefit from government subsidies or tax incentives, further increasing their revenue opportunities.

Another benefit for Telcos in pursuing initiatives to bridge the digital divide is improved brand reputation. Companies that prioritise CSR and invest in initiatives that benefit the wider community are often viewed more favourably by customers and stakeholders. By demonstrating a commitment to bridging the digital divide,

Telcos can improve their brand reputation and differentiate themselves from their competitors.

Increased customer loyalty is also a benefit for Telcos in pursuing initiatives to bridge the digital divide. By providing affordable and accessible internet services to underserved communities, Telcos can build stronger relationships with their customers and improve customer loyalty. In addition, by investing in digital literacy programmes, Telcos can help to empower their customers and build a stronger sense of community.

In conclusion, there are several benefits for Telcos in pursuing initiatives to bridge the digital divide in South Africa. These benefits include increased revenue opportunities, improved brand reputation, and increased customer loyalty. By prioritising initiatives that benefit underserved communities, Telcos can improve their business outcomes while also making a positive impact on society.

6.6 Recommendations

Based on the research findings, the following recommendations can be made for Telcos and other stakeholders on how to best support digital inclusion in South Africa:

The digital divide is a significant issue in South Africa, as seen by the research available and in this study. Access to technology and the internet is still limited in some areas. Telcos can play a vital role in bridging this gap by providing affordable and accessible internet services to underserved communities. Here are some recommendations for South African Telcos to bridge the digital divide:

Telcos, or telecommunications companies, should invest in internet infrastructure and collaborate with government and other stakeholders to promote digital inclusion in South Africa (Lamprecht et al., 2021). Customised solutions tailored to the specific needs of different communities should be developed, and community engagement and outreach programmes should be prioritised to increase digital literacy and

promote technology adoption (Lamprecht et al., 2021; Masiya, 2021). Policymakers should incentivise Telcos to prioritise digital inclusion by creating regulatory frameworks that promote universal access to telecommunications services (Lamprecht et al., 2021). Telcos should increase their investment in CSR initiatives that support digital inclusion efforts and explore new business models that prioritise social impact while generating new revenue streams (Lamprecht et al., 2021; Masiya, 2021). Public-private partnerships should be created to promote digital inclusion, and research and data collection should be prioritised to understand the impact of Telcos' efforts and identify new areas for intervention (Lamprecht et al., 2021). Telcos should work with government and stakeholders to invest in infrastructure in underdeveloped areas, implement initiatives to provide affordable devices and data packages, and bridge the urban-rural digital divide to ensure equal access to digital services and resources (Lamprecht et al., 2021; Masiya, 2021). Finally, Telcos should prioritise infrastructure development in underserved communities, develop digital literacy programmes, and communicate their commitment to bridging the digital divide through marketing and public relations efforts while collaborating with community organisations and NGOs to maximise impact (Lamprecht et al., 2021; Masiya, 2021).

Collaboration: Bridging the digital divide will require collaboration between government, the private sector, civil society, and other stakeholders. Telcos should work closely with these stakeholders to develop sustainable solutions that can address the issue of the digital divide in South Africa.

ICASA can incentivise Telcos to bridge the digital divide by implementing policies and regulations that encourage investment in underserved areas. Here are some ways in which ICASA can incentivise the Telcos:

Universal Service and Access Obligations: ICASA can impose universal service and access obligations on Telcos, which require them to provide affordable and reliable internet services to all South Africans, including those in underserved areas.

Funding and Tax Incentives: ICASA can provide funding and tax incentives to Telcos that invest in underserved areas. This can include subsidies for network infrastructure, tax breaks, and other incentives that reduce the cost of investment.

Performance-based Regulations: ICASA can impose performance-based regulations that tie Telcos' licensing and spectrum allocation to their performance in bridging the digital divide. This can include minimum service quality standards and penalties for failure to meet these standards.

ICASA can play a pivotal role in bridging the digital divide.

Mobile data offloading: Mobile data offloading is a technique that allows cellular data traffic to be transferred to Wi-Fi networks. This can help to reduce the load on cellular networks and provide affordable internet access in areas where there is no cellular coverage. In collaboration with government, this can be used in conjunction with TV White Space, and the unused radio frequencies in the broadcast television spectrum, among others. These frequencies can be used to provide affordable and reliable internet access in rural and underserved areas. We have TV signal all over the country.

Retailers need to be regulated on the usage and selling of 2G and feature phones in the market. Device and connectivity sales should offer affordable devices and connectivity options, including low-cost smartphones and should stop the selling and stockholding of 2G devices and feature phones.

Public-private partnerships: The South African government should partner with Telcos to provide funding, tax incentives, or other incentives to expand their services to underserved areas. This can be achieved through public-private partnerships that leverage the strengths of both sectors to address the digital divide.

Spectrum allocation: The government can allocate additional spectrum to Telcos to incentivise them to expand their services to underserved areas, more specifically to bridge the digital divide. Spectrum is a finite resource, and the allocation of

additional spectrum can be used as an incentive for Telcos to invest in expanding their infrastructure.

Regulatory incentives: The government can introduce regulatory incentives that encourage Telcos to invest in expanding their services to underserved areas. For example, the government can offer regulatory exemptions or reduced fees for Telcos that provide services in underserved areas.

In conclusion, the recommendations provided for Telcos and other stakeholders aim to create a more inclusive digital environment in South Africa by improving internet infrastructure, providing affordable devices and data packages, investing in digital literacy programmes, supporting digital entrepreneurship, collaborating with government and stakeholders, focusing on community engagement, and ensuring data privacy and security. These recommendations can be implemented by Telcos and other stakeholders to promote digital inclusion and bridge the digital divide in South Africa.

6.7 Suggestions for further research

There are several areas that could benefit from further research into bridging the digital divide in South Africa. Here are some suggestions:

The role of regulatory bodies: There is a need to investigate the role of regulatory bodies, such as ICASA, in promoting digital inclusion. This research could explore the impact of current regulatory frameworks on Telcos' ability to bridge the digital divide and identify potential areas for improvement.

The impact of digital literacy programmes: Research could investigate the impact of digital literacy programmes on the uptake and usage of internet services in underserved communities. This could include examining the effectiveness of different programme models and identifying factors that influence programme success.

The role of community engagement: There is a need to understand the role of community engagement in promoting digital inclusion. Research could explore the impact of community-driven initiatives on internet adoption rates and identify strategies that could be used to promote community engagement in digital inclusion efforts.

The economic impact of bridging the digital divide: Research could investigate the economic impact of bridging the digital divide in South Africa. This could include examining the potential for increased job creation, productivity, and economic growth resulting from improved access to digital technologies.

The role of public-private partnerships: Research could explore the role of public-private partnerships in bridging the digital divide in South Africa. This could include examining successful models of collaboration between Telcos, government, and community organisations, and identifying factors that contribute to successful partnerships.

By addressing these areas of research, we can gain a better understanding of the challenges and opportunities in bridging the digital divide in South Africa and identify effective strategies for promoting digital inclusion.

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Appendix A: Semi-structured Interview Guide

Introduction

Thank you for agreeing to participate in this interview. We are interviewing you to better understand the role of Telcos in bridging the digital divide that is backed by the UN sustainable goals of bridging the digital divide and a shared common goal across the world to bridge the divide. The outcome of the research will be shared publicly to shed some light and hopefully entice further exploration and research to bridging the digital divide. The purpose of the outcome will be public knowledge and be used to bridge the digital divide, a common goal that all Telcos share in South Africa and around the world. So there are no right or wrong answers to any of our questions, we are interested in your own experiences. Participation in this study is voluntary and your decision to participate, your name and company information will not be used to highlight any specific Telco or any Telcos in South Africa. The interview should take approximately one hour depending on how much information you would like to share. With your permission, I would like to audio-record the interview because I do not want to miss any of your comments. All responses will be kept confidential and only the analysed and formalised conclusions will be shared. You may decline to answer any question or stop the interview at any time and for any reason. Are there any questions about what I have just explained?

May I start recording?

Please note that this guide only represents the main themes to be discussed with the participants and as such does not include the various prompts that may also be used (examples given for each question). Non-leading and general prompts will also be used, such as “Can you please tell me a little bit more about that?”

Section A: Demographic information

1. **What is your role in the company?**
2. **How long have you been part of this company?**
3. **How many years of experience do you have in the Telco industry?**

Section B: Perspectives on the role of Telcos in addressing the digital divide

1. Can you tell me a bit about your experience in the Telco industry?

2. What are the current practices of South African Telcos in bridging the digital divide in South Africa?

Probe for:

a. Have you seen good initiatives from anyone in South Africa? Why would you describe it as successful?

b. Failed initiatives and why?

c. Could we achieve more if the industry worked together?

3. What role, in your opinion, should the Telco industry play in bridging the digital divide, if any?

Probe for:

a. Do you believe that is should be a collective effort or a company-specific focus?

4. What are the current practices of South African Telcos in bridging the digital divide in South Africa?

Probe for:

a. Have you seen good initiatives from anyone in South Africa? Why would you describe it as successful?

b. Failed initiatives and why?

c. Could we achieve more if the industry worked together?

5. What in your opinion, is the motivation of Telcos for addressing the digital divide (if they are involved in this endeavour)?

Probe for:

a. What would be the biggest reason for a Telco to address the digital divide?

b. How do you manage the balance between profit and purpose?

c. Any policy or regulatory benefits.

6. What in your view, are the key issues and concerns that Telco's experience in terms of addressing the digital divide?

Probe for the following dimensions

a. Do you believe these are unique issues to your Telco?

b. What would be your first concern you would tackle if everyone worked together to bridge the divide?

c. Are there any regulatory, policy or financial constraints?

7. What, in your opinion, are the benefits that Telcos can derive from pursuing digital inclusion initiatives?

Probe for the following dimensions

a. Potential successful initiatives and the benefits (What are the best initiatives that you have seen/done to address the divide?

b. What benefit would a Telco get from bridging the divide?

8. The effect of a digital inclusive society on the economy and Telcos. Can you please provide your perspective on the following aspects?

a. Are you of the opinion that a digital active society in South Africa is a possibility? Please explain.

b. Do you believe that a digital active society would have a positive effect on the economy? Please elaborate.

c. How would a digital inclusive society benefit society? Please elaborate.

d. In your view, do you think that Telcos should collaborate?

8.1 If yes, what do you think can and should be done to stimulate collaboration amongst Telcos to address the digital divide?

Thank you very much for your time and the information you shared today.

Appendix B: Research E-mail to Participants

The Role of Telco's in bridging the digital divide

Dear Prospective Participant,
You are receiving this e-mail because you consist of the experience and knowledge to provide valuable information on "The Role of Telcos in bridging the digital divide".

I am doing my Master's in Digital Business through Wits Business School, and the objective of this research is to: *understand how Telecom operators, such as fixed, wireless, mobile, etc. can work together to bridge the digital divide in South Africa.*

I am reaching out to executives and thought leaders across the telecom industry in South Africa in order to conclude the research, hence the power of the collective is important here.

Should you wish to partake in the study kindly click on the below link and provide your contact details and availability, and I will contact you to schedule a semi-structured virtual (Zoom or Skype) interview.
https://docs.google.com/forms/d/1R26EHmNrPMTyNNqV4Qz3tKWlcipBIYe5dMkjuQvGFSE/edit

Feel free to get in touch should you have any questions or concerns.

Thank you for your time, looking forward for your response.
Regards,

Werner Swanepoel

Appendix C: E-mail for Research Participants

Greetings _____

Thank you for indicating your interest in participating in my research project.

You indicated that _____ is a convenient time for you to attend the virtual semi-structured interview.

Kindly get in touch, and let me know whether _____ at ___ will suit you? If yes, I will schedule the interview on Zoom and forward relevant details shortly.

Please see attached additional relevant information:

- Ethical Clearance Document
- Interview schedule (kindly review the discussion points relevant to the research project in preparation of the interview)

Feel free to get in touch should you have any questions or concerns.

Thank you again for your willingness to participate, it is highly appreciated.

Please note for any academic questions or further insights please feel free to contact Prof Leona Craffert, PhD *Leona.Craffert@wits.ac.za*

Kind regards

Werner Swanepoel
082 900 6064

Appendix D: Interview Transcript of Participant 1

Participant 1 Finalised
Speakers: Participant 1, Interviewer

Interviewer
I am just going to start with a couple of questions that I need to ask so that we can build the anonymous profiles for lack of a better word. So we are just going to start with the demographic information. Your role in the company that you work for now at [company] is obviously that of a [position].

'How long have you been part of [company]?' is actually my first question then?

Participant 1
Since 2018 … Back at [company].

Interviewer
Oh back at [company]. So you started with [company] also?

Participant 1
2001

Interviewer
Oh my word! Okay

Participant 1
2009 … that was June.

Interviewer
Wow. Okay. And where did you go to then?

Participant 1

[company]

Interviewer

Oh lovely. So you know….do you know [name] then?

Participant 1

Yes I worked a lot with [name] because when I joined it was just at the beginning of [company], [name]?……Putting together business plans. He was really a hectic guy.

Interviewer

(laugh) He is the head of the [company] … Obviously for the digital stuff. We have had a lot of interaction and classes with him. He is really good. He is brilliant that guy.

Participant 1

He is.

Interviewer

He knows his story. But he is hectic. I can imagine working for him is also not the easiest … if you get what I'm saying … but any case …

So in the Telco industry you have over 20 years' experience?

Participant 1

Yes since 2001 until now.

Interviewer

That is a lot! So you have seen everything … You have seen the whole … from 2G, 3G, 4G and 5G … the whole story!

Participant 1

Yes. And government as well.

Interviewer

Man … yeah that is “lekker” [“nice”] … from the early early, early days up until now. It has probably changed a great deal … the Telco industry … from when you started.

Participant 1

I always say to our Radio planners … That how we used to do things and the experience that we had at that time, they are not getting that now …

Interviewer

Serious?

Participant 1

Not at all! It is done by the OMEs …

Interviewer

Oh okay

Participant 1

So they don’t know much.

Interviewer

Okay I get you.

I know … ah now I can’t remember … what is his name … [name]. [name] from [province]?

Participant 1

Yeah, he started let’s say this year, then I joined the team the following year.

Interviewer

Okay

Participant 1

Me, [name] … The trainers when I joined

Interviewer

Wow, so you guys have known each other for over twenty years. That is actually awesome. That is very lekker. Both [name] and [name] have told us when we do FRMs and stuff they always used to say how they used to do … how you guys used to do trailing … checking the networks especially in Joburg … with [name] … .how you used to drive around in the evenings and make sure that there is no dropped calls or things like that.

Participant 1

True.

Interviewer

Just one of the questions that we have got is: What are the current practises of South African Telcos in bridging the digital divide in South Africa?

Participant 1

Let’s start with the current policy … for broadband strategy … that was gazetted in 2012 - SA Connect.

So the policy itself, the aim was to bring connectivity to the rural areas and what motivated the policy was the MNOs … they usually will go to urban areas. … the rural areas …

The intent was for government to act as a, in an anchor tenant for about 10 years. So that they can encourage the MNOs to invest in these deep rural areas. So the project was including all different government facilities, hospitals, your police stations, libraries, clinics, schools, or we can make them integrate different targets in terms of by when the country's connectivity population, all those facilities should be connected. That is one policy, which I think we tried to implement the policy. It did not really yield the results. In we have municipalities or provinces, which are also

doing the same thing. One case is Western Cape, which was really brilliant and successful and we were able to monetize the project itself. Because challenges in infrastructure is monetization. Can you see return on investment? Then we had the Gauteng Broadband. Also, it was another success together with [company]. And then we have [company] MNOs trying to go to deep rural areas. [company] also been one of those companies that are really, really bridging that digital divide. We now have Google, we've got Microsoft on in the country, they're also trying to see how they can take the devices because this thing it's a complete value chain, you can't just take in the network without making sure there is a demand for their devices. So yeah, just to mention a few. Those are the ones that I could say plus the Wi Fi projects. And you can mention the likes of [company], I think the one for [names], there was also another successful project to bring connectivity or data connectivity to the townships. And you can see now there's multiple other small players on the other side.

Interviewer

Yes. So do you think that we could achieve more, if the industry everyone were together, like you said that all ecosystem? And it's not just the Telcos … but everyone working together? As opposed to working individually or in silos for lack of a better word?

Participant 1

Yeah. So the ETA policy, which I think was gazetted 2017 has such an infinite that talks to wholesale open access networks.

Interviewer

Okay

Participant 1

The objective of that specific section of the chapter, it was to say, let's have one network player and everyone else come in buy the capacity from that one player in that manner, rather than [companies], whatever you go in trench you go and put two

towers next to each other. What about if we come and put all the space in one pool? The spectrum it’s a pool.

Interviewer

Yeah.

Participant 1

Then for go and compete on services. None of the countries to date and then run that right wholesale Open Access especially on the wireless side. It did not make it.

DFA in terms of fibre that was another big good strategy where they just put their pipes then we all coming in and listen from the … Yeah, you look at the liquid telecoms, they're also trying their own best in so there's been multiple ways of trying to say let's come together. Broadband infraco it was also another example of open assets and perspective, but the only mistake they did was their licence it was only not an ECA licence electronic communications access, you can check those claims licence meaning that it was not one that [company] has and the other players. It was the one that still are only allowed to deploy the infrastructure but looks not cell services on that infrastructure thought they will have done okay.

Interviewer

Yes

Participant 1

Then for with SA Connect itself a good approved approach that would come government tried to take was I don't know if you remember the president during Sona he said Telkom you will be the implementing agent.

Interviewer

Yes.

Participant 1

There was like 2015. It did not materialize, because the other players were like, no, no, hold on. You can't take such a huge project and give it to one player, you are monopolising the industry again. Therefore they tried, which remember, was it a stressful those periods of waste? We try to find ways around the PFMA. PFMA is the Public Funding or our acting, check it again PFMA that looks at whether you followed the right tender process, and was it fair to everybody? So there is not a section that says give only to let's say it's 700 megahertz take it and give it to Telkom and let them be the one who's building this infrastructure, let [company] and everybody else come and lease from this infrastructure. So I don't know even if you look at Kenya, remember Kenya Safaricom. Safaricom was the one that said, Sorry, government, I'm not going to participate in this one pool of everybody coming in, I've got my infrastructure, I've got my own money, I can invest. So why should I come and support these new players, this SMMEs, you know, we all take that 10% 2%, then they come and …

Interviewer

Yes

Participant 1

…. compete with me on services, and maybe even dropped the prices. I'm an incumbent in, I can charge whatever I want to charge. You know, those are the big players in the space. So wholesale open access, whether it's going to materialize or not, which is the approach that we thought will be our answer to bridging the digital divide. Where all MNOs, they come together as a consortium that they used to within the policy was a consortium whereby we all come [companies] and everybody who's got money put it inside there, and the government will allocate the 700 megahertz spectrum or 800. Therefore we all share the pie. Yeah, it's still an open ended question, because it has never been that way.

Interviewer

So in your opinion, do you think that if, obviously, the guys stick together, the Telcos on their own initiative, like you said, because that I'm investing, if I'm from [company], and Person X is from [company] and Person Y is from [company], then obviously,

the guys are saying, well, listen, I've built my own infrastructure, I've spent my own money. So I'm not going to like you say ‘gooi’ this all of the money into one pool, and then we all work together. And because I've invested four billion you've only invested 100 million for argument's sake. But is there other areas where the Telcos could work together to try and bridge that divide? Not necessarily, from a network point of view, but a retail point of view on the devices that are in, in the field. And in the basically on the ground at the moment? Is there any other things that they could do together? Or is it still, in your opinion, would you think it is still gonna be a individual Telco working together with the likes of a Google or a Samsung or whoever it is to try and do their part in bridging the divide?

Participant 1

Uhm…I think the issue here its competition.

Interviewer

Yeah

Participant 1

More than anything. We are fighting for the same subscriber.

Interviewer

Yeah …

Participant 1

We all have [company] foundations. We all have foundations in our companies. All those things that we're doing, that we are actually now duplicating … labs, hubs, digital hubs in the same township … .Why don't we go and put another one in another township? That collaboration isn't there. Why? Because of I want to put a digital hub or innovation in a central region and go in the media, the press. Yeah, my brand has done amazing work. Instead of we saying, collectively, we came together, we are all committed and we are to going to invest in the Free State, because the Premier is asking if we can we bring an innovation bub there, and we all come to play. It's not coming. Competition Commission. It's another question.

Will they even allow those collaborations or it will still remain a major concern of when why are you collaborating now? Why are you colluding? So there are multiple things that need to be relooked at … multiple things that need to be changed? Having even the regulations, you know, the policies can drive this. So whether there can be something done, I think it policy or regulation that can regulate the how we go into this, that's the only solution. You can pump as many devices on the ground. But are you pumping them where this divide is happening? I think we're doing well, so far individually. But we're not reaching the objective. Unless if there's a policy or regulation that can force us to work together.

Interviewer

Something like a … like, say, a policy or regulate regulation will give for lack of a better word, some conformity and everybody working together on a common goal. I think that's a good point. What is the … what is the biggest reason that Telcos want to address the digital divide? Why would they want to do it?

Participant 1

So is it country? We have agreed to the United Nations goals, the sustainable development goals. And if you look at all those goals, uhm … all of them, or even if you look at the ITUT indicators, and how other countries Singapore, some point how they made it to where they are. And Hong Kong how they made it to where they are. Was this network connectivity as an enabler?

Interviewer

Yeah.

Participant 1

… All the other KPIs with all targets within the SDGs … majority of them, they drive by this network infrastructure. For a country's GDP, as World Bank has mentioned, of 2012, study that 10% improvement on your internet connectivity at translated to more or less 1% of your GDP.

Interviewer

Yeah that is huge hey.

Participant 1

… and to get that, it means that people will be working, people will be technically skilled, people will understand how to use the technology. If you want, you know, schools to improve today education to improve, it does the same thing. You know. Climate change, what goes in there, you still need these technologies to assist. So we have to … it's like also companies are governed by the United Nations and groups of 20. Yeah.

Interviewer

So yeah.

That's one of the yeah … Tell me, how do we …. How do we … Or in your opinion, how do you manage the balance between, obviously, because you mentioned earlier, the profit and, you know, it's all about the return on investment and obviously, putting money into the ground in the infrastructure and stuff and you need to get a profit back? How do you manage that balance between profit and purpose?

Participant 1

I will say, organisations have seen a huge shift now. We used to hear a word that says what is the goal of the company, what is the goal of an organisation? It is to make money, make profits. Things have changed. There are a couple of articles or studies that have been written now around Economical impact, and Social impact. Why social impact is a key factor is because if you make sure that your community, the population where you are operating to get these returns, it is affluent, they have jobs, they are able to have good health. They've, it means that they will live longer, they will come back and purchase your products and services.

Interviewer

Yeah.

Participant 1

So if you don't balance this profit, with what you do on the ground, as an enabler of the social impact, you're not going to make it. You can even see now affordability, COVID … what COVID did … COVID-19 right? So for the country, go pay quicker to be normal and get those profits, private sector had to also support the government to address the issue of COVID-19. So it's a balancing factor, it's quite key that you remain being profitable. However, the how you do it to be sustainable, as I showed you about sustainability now, for today. So sustainable companies, they also look at the complete value chain upstream downstream. They did not just look at that, and said, Okay, I'm happy. I'm seeing my 10% revenue returns. Cool. Why not? Why worry? Everything is okay.

Interviewer

Yeah, exactly. You can't just be a number on a page. It needs to be okay.

Participant 1

Not at all. Things have changed drastically.

Interviewer

Thank God for that, in my opinion. But I'm not allowed to share my opinion too much at the moment. But do you? Do you believe that these issues are unique to the Telcos in bridging the digital divide? And more specific, do you think it is unique to South Africa? In your opinion? And then just the follow-up question to that, if, if this would be a reality, and you were tasked for argument's sake to do this, what would be the first thing that you will tackle to bridge the digital divide if everyone worked together?

Participant 1

Okay repeat the first question … Then uniqueness?

Interviewer

So the first one is just … Do you think it's unique just to the Telcos? Or is it something that Telcos and other industries that are related to the ICT sector share that they

want to bridge the digital divide? Or is it only us as a Telco and the Wisps and those type of people, or is it all of the people in that chain? All of the companies rather?

Participant 1

I will refer back to the United Nations' goals. Everybody had to contribute. Whether you're in Tourism, whether you are in Health, wherever you are. You have to play your part. Digital divide is in multiple ways. It's not just in terms of the actual technology. It could be many things. However, everybody has to play or take their part. Just that for us it is direct, right? Because we have to be all we've got the capability of infrastructure.

Interviewer

Yeah. Exactly.

So if you had to tackle it, the first thing that you would tackle if everybody worked together?

Participant 1

For me, what I've seen missing was Private sector and Public sector coming to get the Triple P model, Public Private Partnership.

Interviewer

Okay.

Participant 1

If I were to do anything, firstly, I will add my government office in that specific area. Say can I see what your five strategic intents are? Align them to mine. So that we work together. But if we're not aligned, I will walk and they will do something else. So it is like marriage. It's very, very important and we can go. For government has got money, they've got money. We wouldn't even worry much to say active up to fifteen is about to be renewed. So what did I do? No. Because you will impact on the ground. So they will be there to support them in terms of United Nations

targets/goals. Right? We're all pushing towards the same objective. No competition at all.

Interviewer

Yes. That is awesome.

I think that's a very cool view. I just didn't even think of it. I didn't even think about that. I think that's perfect job because like you see these huge opportunities and if you make it relevant for them also. And if you walk together with the government guys, then then you are half way there. That is a very critical point of view. So you say what? The three P's - Public Private Partnership,

Participant 1

Let me just switch onto this meeting. I'll just put it on hold so that they can see that I'm in.

Interviewer

Sorry, sorry. I'll try and make it quick.

Participant 1

Thanks. No problem.

Interviewer

No, you're sorry. Again, thanks for your time.

Participant 1

We call it Triple P.

Interviewer

Yes. That's very cool. I haven't heard that. But I think that's awesome.

Participant 1

There are some papers that were written down on the how it can be done. So it's just that. Yeah, there have been fights. Yeah, I used to be in that office that the government has. And [name] would be working in there with their team, and he will chase them out.

Interviewer

Yeah, I can imagine if you sit on that in these, there's a lot of other things that you see that obviously, we don't see on the ground when working with our stuff. I mean, I haven't even seen the Triple Ps. I mean, what do I know about those things? So, yeah, that's very cool. And the successful initiatives that you've seen, that have driven the digital divide, and has done, I think you mentioned Singapore, and some of Safaricom stuff that they have tried to do and whatever. Is there any one that you've seen, that has worked, like, extremely well, to bridge the digital divide?

Participant 1

In our country, or?

Interviewer

No. Anywhere.

Participant 1

Obviously, I've not been there in face to face. But when you read articles, you hear the likes of Rwanda ... Their fibre rollout. I remember when I went when I was still at government, we went to a conference in Nigeria. And they were presenting their strategy. It was awesome. Awesome. It was one of the countries that tried the open access networks. And look at it where it is today. It's been mentioned multiple innovation. It's happening there. Yeah look at Rwanda … amazing!

Interviewer

Yeah, I think you're right. You're right, I think, yeah, and I didn't even actually crazy I mean, I'm doing this thing, and I haven't even thought about that. You are 100% correct. If you look at how like, Nigeria has gone from, you know, they've always

been a power to definitely take note of but I mean, in the last 10 years, they have really became a hub that's very cool. Yeah.

Participant 1

Yeah. Look at those articles.

Interviewer

Yes I will get them.

Participant 1

Some few articles when we read or attending conferences you hear ministers presenting … And you're like, Okay, I'm just always looking at SA as a benchmark and also the ITU reports I don't have one anymore. It is ITU and there's another one. I forgot they need our indicators we are how we have regressed or improved because there's a lot.

Interviewer

Yes. Okay, so we can then see how are we tracking?

Participant 1

Just check how we are tracking and look at the the SADC countries are Africans are in South African, whatever DC, I can't remember … how they are performing, which one is the top performer. Which one is on top there, and how they got there? Just go look at maybe past two few years, The one that went up, there is something that they are doing well, therefore, you get what they have done … these and then that way, unfortunately, now I'm not able to answer to that. I have not checked it. I joined two of them. It was just to get the community on board public sector and the right policies and regulations. I will tell you once you have those things in order. I did Master's in ICT policy, right? Because I want you to understand the space and the people who are writing those policies. Unfortunately, we need more people from private sector in the government to help. We don't stay long unfortunately.

Interviewer

I get you. Tell me what is the in your opinion, what is that policy and regulations stuff. That obviously you've done your Master's. So I'm in good company. What would you think would be the type of thing that would move the needle there to get the people to work together? Or to get the companies to meet that Triple three thing that you mentioned - the Private, the Public and the Partnership. How would you do that with a regulation or a …

Participant 1

Commitment, commitment from everybody. We are not committed.

Interviewer

Oh yeah.

Participant 1

Just last year. I can't remember that drive that the President was doing … It was in 5 districts. Limpopo was one of them. Waterberg. What did he call that? It was more about bringing Private sector to come and share with him what can be done. I remember Eastern Cape was also another province and Cape to Durban. Commitment … we come up with this lots and lots of initiatives but we end up nowhere … Or maybe because of COVID-19 it did not materialise what he was trying to achieve but he has plans. He understands. He knows what is needed to be done. But commitment, execution space. Strategy we are able to put it. But let us execute. That is the weakness of government.

Interviewer

Oh awesome. Thank you so much for these insights. I have got three more questions. Then I am going to leave you and I thank you so much for your time.

In your opinion do you think that a digital active society in South Africa is a possibility?

Participant 1

Yes. So definitely it is. Unfortunately I do not have numbers. I was going to share it. If you are looking at the population …. 3G and 4G …. A huge improvement … How many people are accessing internet today versus previously … Hopefully we will have the new census very soon. Comparing 2011 to now. There has been a huge transition. How many sites [company] has been building and the others in rural areas … There is something good that we are doing on the ground. But obviously you are catching up …

Interviewer

Do you … You mentioned it earlier on … The effect that it will have on the economy and the GDP. But what other positive effect do you think it will have on our society if we have a completely digital, active and inclusive society?

Participant 1

On the Health … the health side … Imagine now you have this 5G. You know better than I do. The IET. The doctor here in [place] is able to operate someone in the rural areas. People do not have to drive or travel … When I was in Limpopo I was told the best doctors are at [name] in [place] or some private hospital here. That is where we are going …

Interviewer

That will have a huge impact.

Thank you so much for your time and the information that you shared with me today. And buying out the time to humour me. I really do appreciate it and I thank you so much!

Participant 1

Thank you for making me think again because I have not been reading some of these articles so much … And the ITU policies … line by line.

Interviewer

I am glad I had the presence of your company. You definitely sparked a couple of things that I am going to have a look at in any case. So I do appreciate it and when I am done I will share with you what we have got and what I have found and hopefully you will find it insightful. Thank you so much for your time. Have a good day.

Participant 1

Will do. Good bye.

Appendix E: Interview Transcript of Participant 2

Participant 2 Finalised
Speakers: Participant 2, Interviewer

Interviewer 00:02
Okay, cool. Okay mix just in the in the in the, for the purpose of the study, you know what I want to do. It's how the talking to the UN Sustainable goals of bridging the digital divide. Our Telcos can actually play a role in bridging that divide. And is there a common goal for all Telcos to work together to try and bridge that divide, and that's what we try together. So the first part, just couple of questions is your role in the company as as [position] what you're responsible for, and how long you've been with [company]? And then how long you've been in the Telco industry?

Participant 2 00:39
Okay, so creeping up on 22 years now, in Telco

Interviewer 00:48
Wow

Participant 2 00:49
Yeah 22 years, but 2000 actually started in ‘98. But I was on the event side, but I've physically moved into [company], end of 2000.

Interviewer 00:59
So you literally started when you were eight years old?

Participant 2 01:02
Gee, I wish, boet, but I wish, I wish.

Interviewer 01:04
[Laughing]

Participant 2 01:08
So yeah. So 20-22 years, call it current role, as you know, I mean, so let's call it a blend of sort of, let's call it five years, but not actually. So [position] five years, because, you know, obviously, the previous role was the consumer business. So running everything that including the network is now actually four months, although it's not entirely true, because I was aware of what [name] and the guys were doing. But yeah, I mean, the insights I've gotten in the last four months are quite, it's, it's quite different. And I sort of have the answer already for you. I'm happy to go through your line of questions, but I can actually give you the answer of why we have the digital divide. Because again I experienced it firsthand.

Interviewer 02:04
Oh, can you hear me? There can either. Let's try, try that again. I just lost you there where you said you actually have my answer already?

Participant 2 02:16
Yeah.

Interviewer 02:17
Let me go to the next question and then we can, it's probably gonna lead into your into your answer in any case ...

Participant 2 02:24
Yeah.

Interviewer 02:26
So obviously, you've been here. You've been in the [unclear] industry and for 20 years. So you've seen ** alles, you've seen, from 2G to 3G to 4G to 5G fibre, the whole story.

Participant 2 02:38
Yeah.

** Profanity

Interviewer 02:38

And it must have been, it must have been quite a, quite a journey to start with the, you know, the 33 tens and the goed *[sic]* with the aerials and how we, we can literally almost change the world just on a ** on just on a cell phone. Tell me current practices that you've seen in South Africa in bridging the digital divide? Some, so maybe a couple of good initiatives? Maybe some bad ones, and ones that have failed? And why you think they failed? And how could we achieve more if we work together as an industry in the Telco industry?

Participant 2 03:16

So, so again, I can give you the short answer. And it's actually quite simple. The, the primary stumbling block actually, is putting up a base station in a deep rural area. And I'm faced with that issue now as we speak. So as an example, I've got an area like [place] the actual town [place]. But then there's the outlying part of [place], those villages all the way around [place], which, then they, and I mean, you, you might already know this or might not, but there's 13 villages around [place]. Eight of them have zero coverage. And when I say zero, none of us are there not us, not [company] not [company], no one is there. These people have zero connectivity. And the reason they have zero connectivity is because it's not economically viable for us, as [company] to put a base station there. So because we have a limited capex allowance every year, we get forced to spend the capex in the areas where it's going to give us the greatest return. So we keep putting more and more base stations into sort of highly populated areas, because that's where you've got congestion, and that's where you're going to get return for your money. And, and that's the short story [name]. That's, that's the short story. The reason we have a digital divide globally, is first and foremost because of that comment. It's not economically viable to put coverage in some of those areas. That's problem number one. Problem number two guy. Yeah, let me let me just give you all the comments, because then you can write them down and we can actually start tackling one by one.

Interviewer 05:12

Okay cool.

Participant 2 05:13

Problem number two, now is the cost of the device to now access the internet, you know, the price of a 2G Phone and again, you know, very well R99 bucks, the price of 3G or 4G device with a decent screen starts creeping into R600, 700, 800 bucks. Yeah, problem number two. Problem number three is the cost of the connectivity, the cost of the data, the cost of the airtime. And that's why I use connectivity in the first sentence, by the way, on purpose because you could theoretically cover some of those areas with satellite right. So let's talk [place] those villages. If we can't put a base station there can we give them satellite connectivities? Well, no, because the cost of satellite data is even higher than mobile data. So basically, these okes are screwed my friend. And that's, that's the bottom line until Telcos get forced. And I know we've got the deep rural project, I don't know how much research you have done on deep rural?

Interviewer 06:19

I've done yeah.

Participant 2 06:20

I don't think it's onerous enough on the target, I think if government had half a brain cell they would say to the Telcos, no problem guys. You are, you got your licence, you've got your thing, you've got your whatever. But over the next five years, we want areas like [places], etc, covered. And in those particular areas, we want data at 50% or 75% of your normal price.

Interviewer 06:57

Yes. So what I want to do and this actually, it's awesome, because all three of your points is, obviously, I mean, if you look at any, even if you look at the definition of the digital divide, and how to bridge it, if you just look at a a dictionary reference is effectively to say the cost, the connectivity, and then the purpose of actually trying to use it. So all of those things you actually mentioned. So if we go into one of the the next questions that I've that I've got is, how do you manage? Or how would you

manage the balance between profit and purpose? Because obviously, there's a purpose element and tying that back into the UN sustainability goals that everybody is supposed to be chasing, in inverted commas. How do we tie that back? And then obviously, like you mentioned that also the good thing about what you mentioned, is the policy and regulatory benefits, if that gets pushed from government. How do we address that? I think you've answered the follow up question in any event, which is, it's not unique to your to do the Telco that you work for, you work for [company] I think it's something that all of us face. And I don't think it's unique to Africa, in any way, shape, or form. Because when I did my research, I also found that it is the same with America, they still have I mean places in America, they still people that do not have access to broadband, as they call it, or fiber or, or proper, proper connectivity. So I think first question is how do we manage that balance between profit and purpose. And then to policy and regulatory?

Participant 2 08:30

You can't, we can't, we can't. And that's the problem. Because we, because we're all listed entities. And because we compete in a market environment. We can't underperform the market and we can't underperform our position. So the second [company] shows a 12% growth. And we show 9% growth, their share price climbs and ours drops. And that's the problem, you'll have to regulate the entire market. So you have to literally call all four Telco operators in and say cool, based on your revenue share. And based on your sort of scale, we're going to give you a proportionate target. So [company] being the biggest, we need you okes to do 500 deep rural sites this year, and this is where the sites are, [company] we need you to do 350, [company] and [company] see, you got to do 150 each. And that's the only way to do it all four have to do it, and they have to do it in certain areas, so you don't have duplication. Otherwise, it's never going to happen because you can't balance it. You can't, you can't go to the market and say listen, sorry, guys. We showed a 6% growth this year, instead of an 8% growth because we use 2% of the funds to put coverage in areas that don't generate revenue that don't have coverage.

Interviewer 09:58

Okay, so I think you you actually and it's awesome, because you are you leading into the next question. So if you were to be tasked to lead up a squad or a task team to tackle the digital divide from from a Telco point of view, or from a regulatory point of view, what would be the first thing that you would tackle? And I think you've already alluded to the regulation type of thing that you would probably implement.

Participant 2 10:26
Yeah, so I would, I would say, firstly, I would legislate it, and I'd regulate it. The second thing I do is I bring everyone in the ecosystem in. So us, [brand name], as [brand name], as the equipment manufacturers, and then are haul in [brand names], whatever as the OEM provider and give the same target to the whole industry.

Interviewer 10:51
Not only Telco, but all of them, all of them.

Participant 2 10:53
Yeah, say [brand name] you need to supply these 500 sites to [company] at cost. Otherwise, we're not going to renew your distribution licence. You know what I mean?

Interviewer 11:07
Okay ...

Participant 2 11:08
(Incoming call, phone ringing) Just give me give me one second I just need to answer this call. How's it?

Interviewer 11:28
Yes.

Participant 2 11:29
The call dropped I wasn't able to answer it. Yes, you follow? So you follow what I'm saying? Right? I'd regulation whole, I would regulate the whole industry. And tell

them you've all got to support this thing? Because it's short-sighted, right? You know, the, the quicker. The quicker you get these people connected. And you get these people economically active, you're growing your future customer base. And you're growing customer base for everybody, not just Telco, right, you grow in the future customer base for the car manufacturers, for, for everything, any sort of any person in the FMCG space is going to benefit from a more connected more economically active population base. But so totally short-sighted, which I mean, I'm obviously digressing now, I would regulate the whole industry, network provider and and the telecommunications provider and proceed.

Interviewer 12:31
It's you not digressing, actually leading into the, to the next question of what the benefit would be for a Telco to bridge that divide. But I think you've you've actually touched on that already. I mean, that the the short-term benefit is obviously the fact that we'll have more connected customers, and we'll have a bigger customer base, and more people that will be economically active in the digital space for lack of a better word. In your opinion, do you reckon that a digital active society in South Africa is a possibility?

Participant 2 13:03
Absolutely.

Interviewer 13:05
And why would you say so?

Participant 2 13:06
150% and possibility, actually, ironically, more so in South Africa because of the limitations because of our geographic spread. So if I look at a typical European country, right? If you live in any major city in Europe, and you need to go buy anything, but whether it's something to eat or something for the house, you seldom need to travel more than sort of four blocks to literally walk out your front door, walk two blocks, and you're going to find some sort of convenience store. We don't have that sort of thing. Right. It's, it's that's kilometres to travel to go get something. And

I think I think that on its own is incentive enough for people to use that kind of platform. Also, again, if we look at the geographic spread of the country, I mean, I think if it was a hell of a lot cheaper, affordable. I mean, I think we'd see a massive uptake of applications like Netflix and and Showmax. You know, I mean, the one thing whenever you drive past the township, the one thing you always see is satellite dishes.

Interviewer 14:15
Yeah.

Participant 2 14:16
You know what I mean?

Interviewer 14:17
Yeah you're right.

Participant 2 14:18
And again, it's just gonna take one oke with half a brain cell to start delivering affordable connectivity via satellite, and we're going to be in deep shit.

Interviewer 14:29
Ek hoor jou *[I hear you.]*. So do you believe that a digital active society would have a positive effect on the economy?

Participant 2 14:36
Yeah, of course, of course. Of course, because again, more, more more digitally active, more educated. Sort of more, more potential to earn and to progress should automatically bring down crime rates, bring down poverty rates, all that kind of stuff.

Interviewer 14:54
Do you need to answer that quickly?

Participant 2 14:56

No, no, that was [name] from [name], so I`ll call him back.

Interviewer 15:01
Cool stuff. It's gonna be a long chat. Okay. So I think we've also touched on the follow up on that is how would a digital inclusive society benefit society. And I think you've already touched on the innovation and all of those type of things that will happen. And I think you've also touched on the one that I wanted to ask after that, which is, do you think that Telco shoud collaborate, I think you raised a valid point of saying, not only the Telcos but everyone in the ecosystem not only are only those guys So, what do you reckon needs to happen for all of these people to sit together and come together around the table and actually address this issue that comes at back that comes back to your, your previous comment of actually doing some sort of a regulatory or?

Participant 2 15:48
Yeah, it's got to be legislated until it's legislated until it's imposed on every operator it's never going to happen.

Interviewer 15:58
Yeah, dit is hartseer nê *[it is sad, hey]*.

Participant 2 16:00
Listen it’s the world because well it can if they forced it can if they are forced because then everyone's on the same playing field.

Interviewer 16:11
Yeah, true story. Okay, that's that's all the questions I've got at the moment.

Participant 2 16:17
Just a quick question, have you looked into the [word uclear] government's ambition with [unclear[…

Interviewer 16:25

A little bit sorry,

Participant 2 16:30p
I'm losing you can you hear me now?

Interviewer 16:32
Yes, I can hear you now.

Participant 2 16:34
I said have you done any homework into woam?

Interviewer 16:43
Can you hear me?

Participant 2 16:45
Yeah, I can hear you now. Brother, can you hear me?

Interviewer 17:01
Daarsy, daars jy terug *[there, there you are back].* You back now?

Participant 2 17:12
Can you hear me now? Are you back? Okay, can you hear me now fine?

Interviewer 17:25
Yeah.

Participant 2 17:27
I was asking if you have done any homework on the woam? And have you looked at the woam at all?

Interviewer 17:38
Yes, I have can I call you on your on your mobile quickly?

Participant 2 17:43

Yes, let me actually call you.

Interviewer 17:45

Okay, cool.

Appendix F: Interview Transcript of Participant 3

Participant 3 Finalised
Speakers: Participant 3, Interviewer

Interviewer 00:02
Recorded it so that I can do the transcription afterwards.

Participant 3 00:05
Okay.

Interviewer 00:06
I'm not going to it's still anonymous, you don't have to worry and ek gaan nie nou sê ek en [name] het lekker gepraat oor daai werke wat ons *[and I will not say that name and I chatted about those jobs that we].*

Participant 3 00:14
[Laughing].

Interviewer 00:15
So it's nothing like that any case, [name] yeah, thanks for for allowing some time, I know you're busy. And I know it is a bit of a mission. And it's never lekker *[nice]* to, to do these things. But I do appreciate it. And hopefully, we can get some useful insights out of my study. And then I'll also share it with you so that you can, number one, say you were part of it, which you were, and the number two also maybe help you guys also in bridging this divide. So the idea is, and the idea behind my thesis is the role of Telcos in bridging the digital divide. So it's a UN sustainable goal to bridge the digital divide. And I think all of the Telcos are going towards it. I know, you guys also recently changed from a Telco to a Telco like [company] did with all the e-planning and all of that stuff. So it's very topical at the moment, and how we going to address it and we're going to get it done is obviously kind of important. And that's why I'm trying to get some insights from industry leaders and experts in in the

different Telcos to get their points of view, and then try and correlate some sort of plan and then work together with the, I think it's the digital Council of Southern Africa, I might have the name wrong, but that's what it comes down to effectively. And then maybe get the okes to scratch their heads a little bit more and maybe see if we can't do something proper in South Africa. But any case, that being said, if you don't mind, just telling me your role in the company and how long you've been at this specific company and how long you've been in the Telco industry?

Participant 3 01:49
Sure. So yeah, my name is [name]. I've been with [company] for the past eight months, I head up mobile advertising for [company] in South Africa. I've been in the telecommunications industry for about seven going on eight years now. And we specify we specialised in the advertising and digital technology space, but focusing very much around the advertising capability within the Telco.

Interviewer 02:19
Oh fantastic, thank you, [name]. So if you can tell me in your experience in the last eight years that you've been in a Telco industry, what have you seen about the digital divide in South Africa? So people trying to do some stuff? Have you seen some good initiatives? Have you seen some bad ones? And if they have failed, why do you think they did?

Participant 3 02:46
Great, thanks so much [name]. So I've definitely seen some interesting, some interesting attempts to cross the digital divide. I think one of the one of the biggest challenges we have in South Africa is access to data access to connectivity, specifically for looking at rural areas. And my previous company that I was at, I've seen very, very good initiatives to actually cross that digital divide things like zero rating of content, zero rating of services to to customers. But then also, you know, taking that approach of being a responsible corporate, and building products and services that that addressed very important issues in the day to day lives of people, things like education, things like health services, access to information around primary health care, and then also access to security services and services that will,

you know, help to improve people's lives. I've seen Telcos do that very, very well, my previous company that I was at, they did that in a in a very, very successful manner. Also something that I see that my current company is doing as well, because I think that Telcos have realised that they actually are the enablers to facilitate the reduction of the digital divide. Telcos have a capability to drive not only connectivity, but every ability to drive education, awareness, access to information that'll improve people's lives. And so Telcos are in a really, really unique position to actually bring a significant amount of good change to South Africa. Some of the things that I've seen that have not been very successful, are along the lines of payment facilities in the early age in the early phases of getting into Telco I think it was more a case of the market not being ready for it.

Participant 3 04:39
And I think it's also a case of trust. You know, people people pay and transact in a very particular way and to change their behavior takes quite a long time. And I see that now that my previous company as well as my current company, are seeing successes in those in those spaces, where people are starting to adopt new payment methods. There's a trust that's being developed, with with with the customer. So the customer can actually start feeling comfortable about transacting on the mobile device sending money back and forth trusting that it will actually reach the intended party. So so yeah, so I think it is really a case of timing and education, and actually how the how the customer will actually be able to adopt that technology, and how easy we make it for the customer to actually engage with that specific piece of technology or platform that we build. So some good learnings that I've seen, and some good, some good case studies. Obviously, you've seen some bad ones as well, but I tend to focus on the successes.

Interviewer 04:39
Yeah.

Interviewer 05:46
I get you. I agree with you there [name]. The other thing I wanted to find out from you, in your opinion, do you think that this should be a collaborative effort between

the Telcos? Or should they continue to, for lack of a better word work in the type of silo approach that they're doing at the moment?

Participant 3 06:05

I definitely think that there needs to be a collaborative approach. And it's something that I've always pushed since since joining the telecommunication industry, I don't come from Telco. I come from media. And in the media space, there are bodies that actually work to standardise certain things. And I think with standardisation comes the ability to scale very quickly with standardisation, the ability to adopt very quickly. If there's one way or one best practice, we're doing something that makes it very easy for the customer to actually adopt the technology and adopt a way of working. And I think the Telcos have a fantastic opportunity to actually collaborate to actually build something for the greater good of the of the country or even on the continent. Again, Telcos in a very powerful space. [company] is an example operating 21 markets in South Africa. And that in itself is a powerful position to be in because you can speak to 21 countries, you can speak multiple languages. And if you make the platform ubiquitous and easy to, easy to adopt easy to learn payments, as an example, make it easy work with your competitors. Because at the end of the day, if the Telcos are not going to do it, the OTT players are going to come in and they're going to just basically come and eat our lunch.

Interviewer 07:17

Exactly. I agree with you. I'm not allowed to agree and give my opinion. But I agree with you. So how do you think we manage the the how does a Telco manage the balance between profit and purpose? And a follow up on that? Do you think there's any policy or regulatory benefits that could might possibly be be implemented to entice Telcos do or to motivate them rather to get involved in trying to do this as a collaborative effort?

Participant 3 07:52

Look uhmm, let me start with the policy question [name]. Look I think it really depends on on the council and the government, I think the government from a regulatory and legal perspective have got a great responsibility to actually make it a

make it beneficial for the Telcos to collaborate, whether it means, you know, improve the tax breaks, or whether it means incentives for building on certain initiatives or getting programmes off the ground. I think there's a there's an opportunity there. The plus side of that is that it's going to benefit not only the Telcos but it's going to benefit the entire society. And the government, government being the enabler, because I think government should position themselves as being the enabling party to facilitate that, you know, collaborative programmes get off the ground, and using government policy using laws using regulations to actually incentivise Telcos to work together. I think there's there's a big opportunity there. And then from a from a Telco perspective, I think that whole thing about for good, I think, you know, people, people are associating themselves very strongly with brands with a purpose. And I think that's also why [company] as well as [company] have done the repositioning. It's about creating a brand that has a purpose. It's about create sharing that yes, you putting the customer first but um, through my products and services, I'm effectively bringing change and beneficial change to people's lives. And I think, you know, that's, that's where the huge opportunity lies for the Telco business.

Interviewer 09:33
Hundred percent. Do you reckon this is unique? The the issues that we are facing the digital divide, do you think it's unique to only the Telcos? Or do you think it's everyone in the ecosystem? I think you've already touched on it. And then the follow up question to that if we were to say [name], you are in charge of this digital divide and to tackle it in South Africa what would be the first concern that you would tackle if you were in charge of it?

Participant 3 10:05
Okay, sorry, just just please highlight this, the recap the first question again [name].

Interviewer 10:08
So do you reckon it's a something unique to just a Telco? Is it everyone in the ecosystem? And then obviously, if you were to be in charge of the story, what would be your first concern or your first big hurdle to tackle?

Participant 3 10:21

Okay, so definitely not unique to the Telco industry. We've seen it in insurance. We've seen it in healthcare, we've seen it in the parastatals with government if you're looking at big parastatals, like state-owned enterprises Eskom as an example, the digital divide is is everywhere respects everybody. And I think the, the opportunity of not only getting the Telcos to collaborate, but also indistinct industries to collaborate. So as an example, from [company] side, they've launched a Super App and it's a very simple, simplified example. But that's a cross not only cross platform, but also cross industry collaborative platform, because they, they work together with financial services companies, they work with insurance companies, they work with fmcgs, they work with, you know, all kinds of other industries to actually create something that will enable the customer that will bring immediate benefit and also relief in certain circumstances, whether it is you know, gifting someone a bus ticket or advancing someone's money to buy electricity. These are things that are enablers, and I think it doesn't really sit with Telcos only, although I think the Telcos have gone a significant role to play in this space. If it was me, where would I what would I tackle first? From a telecommunications perspective, it would be probably from a regulatory perspective, I would engage with government to see how we can actually work a lot closer together as Telcos across the industry and across the continent, to see how we can put programmes in place that will that will not only bring digital inclusion and financial inclusion, but also effective change. So things like how do you make education available free for free across, you know, across across markets that where people are physically not able to actually attend school? How do you enable that? How do you work with OTT platform providers? To actually facilitate that? How do you work a laboratory with with your partners to provide hardware to enable the students to actually educate themselves and learn and actually grow? So I think that's probably one of the first things that I would do focus on on the areas where we see the most dire needs, which is education, health care, and see how Telcos can assist from that perspective. And I think [company] and [company] have already done a significant amount of work with with the advent of the of the Coronavirus, we've seen significant investment going into there from a Telco perspective. But I think from an enablement perspective, we can do more. So that's probably something that I would do if I was given the opportunity. Because I

think it's something that I'm very passionate about as well as education and actually seeing people grow and develop.

Interviewer 12:53
Hundred percent, [name] you've touched on on it a little bit, but what do you think would be the benefit? For a Telco if we were to be able to bridge the digital divide?

Participant 3 13:32
Oh benefit would be, would be significant. So there would be a growth in your customer base, a growth in your engagement of your users, you'll be able to actually uplift the entire community in terms of, you know, connectivity enablement of people to access content that they couldn't access before. So it'll, it'll it'll be a broad benefit to the Telco, the brand will be uplifted, brand love will multiply, multiply x fold. And then of course, the most important thing at the end of the day, we're all in business to make revenue and I think it'll be a huge revenue impact. If you can enable more people to connect, if you can enable more people to view content if you can enable more people to engage with with platforms that you build, if you can enable more people to improve their lives through education, access to healthcare information, access to services, access to grow their business as an example. So if you if you can facilitate that, then I think you know that in itself will be a huge win for the Telcos. I hope that I've answered your question.

Interviewer 14:49
No 100% 100% then I'm almost done [name]. In your opinion, do you think digital active society in South Africa is actually a possibility? And if so, please explain.

Participant 3 15:05
I definitely think it's active because of the the nature of Africa, Africa being mobile first. So I think we've actually implemented a lot of technologies in South Africa that have already leapfroged the so called first world country, there`s stuff that we've done in South Africa. As an example, we were the first to launch prepaid, prepaid platforms in the world, I mean, that that's a South African initiative in Africa initiative. We were the first to do mobile money payments in Africa, because of the fact that it

wasn't born out of out of out of luxury, it was born out of necessity. So I think Africans who being who Africans are, we are innovative by nature. And I definitely think that's that South Africa and Africa can be a digital enabled and a digital first continent. I think the only thing that stands in the way of it at the moment is enablement. So in other words, you know, access to devices, access to 3G, 4G, and even potentially 5G connections. It's the adoption of smartphone penetration in South Africa, not only on also into the African markets, we are limited by those things, but they are being addressed. But definitely, there is a potential for Africa to be a digital first and digital active country.

Interviewer 16:34
Fantastic. And then the last one, [name], if we did achieve this, what do you think the positive effects on the economy would be?

Participant 3 16:45
I think it would be, you know, like, I think it would be huge because it will unlock completely new industries that we have even have never even thought of before. If you are if you enable connectivity, if you enable people to actually express themselves freely and be creative, if you take off the limitations of, of not having the ability to actually express yourself, connect and share an idea and do it in real time, and actually in a creative manner. There's a lot of businesses that I think that are limited and stifled by the fact that they number one don't have access to markets. Number two, don't have the actual way to to pull their clients and actually have an effective platform in place to actually run the business from a financial perspective. There`s micro-businesses that we know is the lifeblood of many African countries, if we're looking at Nigeria, a significant part of the economy is actually based on micro micro businesses. So I mean, if we can enable those things, it will have a huge impact on the South African economy, and I think the government knows that that's probably why it`s part of the RT 15 project. We know that there is this this this requirement to connect people digitally. Absolutely.

Interviewer 18:05
Then, that is that is my questions for now. Ek sal stop *[I will stop]* recording.

Appendix G: Interview Transcript of Participant 4

Participant 4 finalised
Speakers: Participant 4, Interviewer

Interviewer
So my research topic gaan oor die digital divide en ek glo dat daar ‘n moontlikheid is dat as die Telcos, nie net die Telcos nie, maar enige iemand in die ITC sector saam met die government saam werk kan mens dalk dit kry, maar alleen in ‘n silos? [onduidelik[dink ek nie dit gaan gebeur nie, dit is nou wat ek wil probeer natuurlik uit die aard van die saak bewys so dan hopelik kan die vrae by die industry experts soos jy en al die ander mense wat ek al mee ge-interview het dan vir my bietjie meer light shed, en dan hopelik kan ons iewers kom, hopefully. So … with that being said, uhm, jy is nou by [company], wat is jou pos daarso [name]?

Participant 4
Ek is die [posisie]

Interviewer
Yes! Okay, so met ander woorde as my research goed gaan het ek dalk ‘n werk ook, dit is goeie nuus.

Participant 4
[Lag]

Interviewer
Gee jy om as ek die video afsit, want soos jy weet is die, die internet is nou nie van die beste nie, ek sal voor ons klaar is sal ek weer die video aansit.

Participant 4
Okay

Interviewer

Ek wil net hê die recording moet mooi loop, okay, so jy is die [posisie] by [company], en hoe lank is jy nou al by [company] uh [name]?

Participant 4

Vier jaar

Interviewer

Vier jaar, great stuff. En jy, jy is in die Telco industry, hoe lank al?

Participant 4

Frieken, ek kan nie so ver tel nie, [beide lag] uhm … ek dink 30 jaar, nee dit is, ja 30 jaar.

Interviewer

Liewe ouers, so jy het letterlik al alles gesien van die 3310 af al die pad deur, of wel voor die 3310 daai goed met die dik lang uhm daai ding wat gelyk het soos ‘n baksteen met die lang aerial.

Participant 4

Ja, ja, ons het, ons het voor dit nog, ons het nog met dos? [onduidelik] slash begin toe julle outjies nog nie eers gedagte was nie.

Interviewer

[Lag] toe ons nog nie eers geweet het wat aangaan nie, ek was nog op Sub-A.

Participant 4

Daai tyd toe [company] begin het was daar nog nie ‘n … maar toe was ek nog by die [company], want daai tyd was daar nog nie uhm Windows en al hierdie goed nie, so ons het nog op uh blue of green screens gewerk.

Interviewer

Liewe ouers, ja dis crazy neh. So, [name], in die in die 30 jaar wat jy nou al in die Telco industry is, wat is van die die practices of initiatives of wat ookal wat jy al gesien het uhm, in Suid-Afrika wat uhm ouens probeer om die digital divide te te probeer daai oorbrug en dan, die opvolg vraag daarop is wat van hulle het, het gefail en as jy in jou opinie dink hoekom, en watter van hulle het goed gewerk en en hoekom?

Participant 4

Uhm, man ek weet nie of, of uhm, my antwoorde gaan dalk nou bietjie radikaal wees, maar ek gaan vir jou my view gee.

Interviewer

Asseblief

Participant 4

So uhm, eerstens die die Telkom besigheid het begin met monopoly so, jy weet as ‘n ou monopoly het, of Telkom se monopoly is, is dit amper makliker om netwerke uit te rol, uhm want jy het redelike goeie staat funding, en uhm jy het geen kompetisie nie, uh die nadeel daarvan is jy het geen incentive om dit uit te rol waar dit miskien werklik nodig is nie, maar ook na dit in defense moet ek sê, as ‘n ou begin om die network uit te rol en jy kan dieselfde nou sê met FTTH jy gaan waar jy die grootste customer base het en die vinnigste gaan kry, en waar jy die meeste geld gaan maak. So ek dink uh bridging the digital divide en groot corporates en ‘n chase vir profit is mutually exclusive, uh jy jy kan nie, jy kan nie ‘n groot corporate wees en en profit vir jou shareholders jaag en nog dink jy gaan die uh digital divide requirements addresseer nie, daar uhm, die twee goed is is net dit gaan net nie hand aan hand nie.

Interviewer

Yes

Participant 4

Uhm

Interviewer

Ek is bly jy vra daai vraag want dis een van die vrae wat ek wat een van die opvolg vrae wat ek nounou wil vra maar ek sal dat jy klaar maak en dan sal ek [lag]

Participant 4

Okay, so uhm en ek, en ek dink, dis, dis miskien ook ‘n, ‘n uhm is dit nou, as ek bietjie meer politiek wil raak, dis uhm dis die verskil tussen uh, uh demokrasie en outokrasie, of ‘n kommunistiese environment, uhm so die bottom line daar is, daar is nie finansiële incentive om die digital divide te oorkom nie, dis die bottom line, nou uhm ek dink ook die ekonomiese druk uhm begin ook ‘n rol speel daarin want mense begin uh in, in, ek, uhm dit gaan alles oor geld, so in gelde value en die ouens wat meer wil verdien, so die uhm mark word gedruk om dienste vir ‘n goedkoper prys aan te bied vir die mense, uhm en die persepsie is dat hoe goedkoper die prys hoe vinniger gaan jy die digital divide oorbrug want dit gaan meer bekostigbaar raak vir mense, uhm wat ‘n debat op sy eie is, uhm die gevolg uh daarvan is dat die prys druk raak orals meer en meer, so seker nou van ons oogpunt af, byvoorbeeld, net om ‘n voorbeeld te noem, is ons die support services wat ons vir die operators gee, soos die bou en maintenance services verwag die operators ons moet vir goedkoper en goedkoper gee, en uhm om om hulle profit margin te sustain, nou iewers down the line raak dit ‘n train smash, want jou koste is net jou koste en soos almal weet deesdae raak die koste al hoe hoër en brandstof en materials en … so … iewers in die toekoms sien ek nog ‘n groot train smash kom daaroor, uhm, maar, maar ook maak uh hierdie jaag vir profit maak ‘n groter en groter probleem om daai digital divide te oorkom, nou, die, die gevolg daarvan is, en jy sal nou sien in die, in die history, wel eerstens het dit begin, okay Telkom gaan nie by al die mense uitkom nie, so ons moet nou ‘n ander plaan maak, uhm, en en tegnologie het ook verander so [onduidelik 7:55] het nou nie meer belangrik geraak nie so nou, nou is dit uhm cellular telephony? [onduidelik 7:59].

Interviewer

Yes

Participant 4

Uhm, so die, die mark, die eksterne markfaktore het, het heelwat verander, okay so nou gaan ons vir [company], ag [company] en [company] uh saam license om [company] te begin en [company] kry ‘n license nou gaan ons bietjie meer kompetisie in die mark veroorsaak, uhm, * investment elke ou dink hy is die beste, uhm, arrogansie in die mark, uhm elke ou bou sy eie kasteel, uhm en en aan die een kant is dit goed want die ouens het natuurlik begin fokus op areas en jy sal nou self weet, [company] het baie spandeer in [province], [company] het baie gespandeer in meer in die [province], so daar was plekke waar daai positiewe investment competition gebeur het, en dan ook in plekke soos al die metros waar almal ge-overstock het, en uhm hulle eie ego gejaag het, uhm, so uhm my persepsie van as ons nou terug kyk dan dink ek die regering het die, het so geworry oor uh nuwe politieke bestel en uh, uh transformation in politieke omgewing hulle het die die ball gedrop op “ek gee jou ‘n lisensie maar julle ouens moet saam werk”. So dit was die eerste failure dink ek van van die regering en die industrie om, om daai digital divide dan al te addresseer.

Interviewer

Aaah, ek hoor jou, ek, ek, ek stem, ek mag nie my opinie gee nie, maar ek stem saam [lag]

Participant 4

[lag] jy record dit onthou … [beide lag]. En ek dink, ek dink dit het die probleem perpetuate tot op ‘n punt, uhm en die die voordeel daar dat die mark bietjie oop geggaan het is dat maatskappye soos [onduidelik] en MFA? [onduidelik] ‘n gap gesien het en en ook lisensies gekry het om om uh daarop fibre te bou en die miskien dit was miskien in my view die eerste stap na ‘n ‘n opregte poging om die digital divide te brug, uhm, uhm want nou het jy companies wat daar fibre bou en vir al jou operators sê okay julle veg nou met mekaar, maar julle kan almal by my kom share dan dan gee ek vir julle almal ‘n diens wat vir almal goedkoper en meer effektief wes, uhm die ongeluk daarvan is waar het hulle almal uitgerol? Weer in metros, uh waar die groot mark is en waar hulle die beste wins gaan kry, uh en return gaan kry op hulle investment. Uh, maar dit het die die mark begin dink aan

okay, ons, ons, uh ons egos raak nou in die pad van ons profitiability so ons moet nou begin share.

Interviewer

Yes

Participant 4

Uhm, en in daai omgewing het ons deur die opportunity verloor om te sê okay ouens maar nou moet julle share en julle moet in in meer rural areas uitrol, uhm en so uh daar uh ek wil nou maar sê dit is die tweede down failure van die regering, uhm die die geluk met die tegnologie en ek dink dit was dit was per ongeluk gelukkig, want in die begin onthou het [company] en [company] begin met kontrakte, as jy nie ‘n kontrak kan bekostig nie ** dan kry jy nie ‘n diens nie, uh en ek meen dit dit in opsig self het ‘n vreeslike klem gelê op die, op die availability van tegnologie vir die res van die wêreld of vir die res van die uh, die uh land. Nou gelukkig met pre-paid uhm en ek dink die ouens het bietjie ‘n gamble gevat met pre-paid, uhm en dit dit was toevallig dat dit dat een slim dude dit uitgedink het, maar ek dink dit het die deur oopgemaak vir ‘n ‘n groot moontlikheid van daai tyd al bridge the digital divide, uhm,… die die probleem daai tyd in my view was okay nou is ek ook ‘n cellular operator ek het nou hierdie briljante nuwe plan en ek maak geld soos * bossies, uh, om ouens die capability te gee om access na die tegnologie te kry teen ‘n astronomiese prys, die, die derde failure van die regering was hulle moes daai tyd al die prys gecap het of beter geregulate het uhm, om die uhm die accessibility beter te maak, nou die operators gaan sê maar ons kon dit nie gedoen het nie want ons moes ‘n * lot invest in die uitrol van netwerke en al hierdie goed which is fair aan die een kant, want die besigheid hulle jaag profit, maar as jy nou kyk histories oor die profit wat die ouens gemaak het was nog steeds astronomies, so, weereens dit gaan oor hoeveel shareholder return ek gaan gee versus wats goed vir die, vir die land

Interviewer

Ja, ek stem saam met jou.

Participant 4

En as daai druk van die regering beter en meer gefokus was daai tyd, die ouens kon nog steeds profit gemaak het maar hulle, hulle revenues sou nie jaar op jaar, of hulle share values sou nie jaar op jaar verdubbel het nie, uhm en bietjie terug na my argument as uh, uh jy weet demokrasie is partykeer goed maar … ‘n, ‘n sosialistiese regering partykeer is bietjie beter, of ‘n mix tussen die twee het uh defnitiewe benefits. Ja, uh so, ek dink ons soos, jy sien nou presies dieselfde herhaal met FTTH waar gaan die ouens? Waar die ryk mense bly eerste, uhm, nou, in … so uh dit in die een kant, die ander ding, die ouens begin nou, die operators begin nou agterkom * maar ons moet nou begin saam werk, ons moes eintlik al 20 jaar terug saam gewerk het uhm want dan sou ons baie meer geld gehad het om uit te brei, nou moet ons begin eers het hulle begin facilities share, nou het hulle torings geshare, en nou begin hulle ducks? [onduidelik] share … nou begin hulle al ‘n kabel in duck? [onduidelik 15:17] wat wat histories ongesien was, ja, so ek meen hindsight is nou perfect sight as ek nou terug gaan 30 jaar en ek is die regering sou ek gesê het hoor hierso ek gaan vir julle ‘n lisensie gee maar julle bou een toring, julle grawe een duck en die ouens moet saam werk want dan gaan ons teen ‘n baie goedkoper koste ‘n groter network uitbou vir die hele land om effektief te gebruik.

Interviewer

Exactly ja, almal, almal kon saam gewen het. Ek dink baie van die vrae wat ek in elk geval wou vra het jy klaar geantwoord so ek love dit, uhm ek dink uh as ek net ‘n opvolg vraag kan vra en jy het nou nou daaraan getouch, of actually nog die heeltyd, maar die opvolg vraag is okay wat is die groot rede vir ‘n Telco om die digital divide te address en dan saam met dit hoe, hoe, hoe balance mens daai switch pod tussen profit en purpose? Kan mens dit doen, en dan die heel laaste een wat seker saam met dit in tie is seker is daar enige policy of regulatory benefits wat mens moontlik kan inwerk sodat mens by so iets kan kom?

Participant 4

So politiek en profit is weereens mutually exclusive, want jy kan nie uh, ‘n politiese agenda dryf en ‘n profit agenda nie, veral nie wat die digital divide aan betref nie, uhm dit is uhm, in my view absoluut onmoontlik, as jy kyk net na kom ons vat BEE

byvoorbeeld as ‘n voorbeeld, uhm, die regering dryf ‘n BEE target, en met goeie reg, al die groot operators window dress to some extent hulle BEE uh, uh action, uhm so dis nou’n baie gevaarlike ding om in ‘n tesis te sê dat die ouens window dress en hulle lieg, maar uh en dit gebeur, as jy kyk in ons industrie gebeur dit, ons moet BEE points hê uhm om werk by ‘n operators te kry en jy kry ouens wat dit probeer goed doen, en dan kry jy ouens wat dit wat net window dressing doen so dit is ‘n silent BEE partner wat papier benefit kry en dit is net ‘n liegspul, so daai politiese agenda almal koop kamstig in die politiese agenda, en dan uhm uh jy weet dit is amper niks anders as PPE fraud nie, en die hele value chain raak vrot van daai ding, uhm en ek dink dit is ook uh miskien ‘n teken van waar ons as ‘n land is, uhm almal steel, almal lieg, almal is lawless, uhm so die hele morele verval van die land uhm perpetuate eintlik hierdie hele storie, nou uhm as jy nie uh en dis weer terug waar ‘n sosialistiese bestaan uh en by no means is ek ‘n kommunis verstaan my goed, maar in my view is daar regtig ‘n goeie plek vir dit want as jy vir die ouens op ‘n manier kan sê jy mag net 20% profit maak julle moet saam werk, julle my government regulations of my local municipality regulations is dit uhm dis so, dis so bietjie sosialisties of, of autokraties maar die end result daarvan is die ouens gaan ‘n manier vind om saam te werk en goedkoper te werk, en beter te werk, en as jy nie daai ding outokraties uhm manage en en reguleer nie dan, uhm, dan is jy dood, as ‘n land, nou die, die, die lekker ding wat almal op spring en sê nee kyk ons is ‘n vry land en ‘n vrye mark ekonomie en ons, ons het ‘n fantasiese konstitusie en julle moet besigheid die vryheid gee om, om uh … gesond te kompeteer, en uhm die beste te doen vir die land, dis *, die corporates doen wat goed is vir hulle sak dis die bottom line. Dis jy moet sê wat ek gemis het in jou vraag.

Interviewer

[lag] nee, nee dis daai is perfect, daai is perfect, ek het dan ‘n opvolg vraag op dit, as kom ons sê as, as ‘n voorbeeld as jy is nou getask om die digital divide te bridge en al hierdie mense het gesê hulle sal saam werk, wat sal die eerste ding wees wat jy sal tackle, om almal te kry om saam te werk, en ek dink jy het nou al half so half ge-ge-ge-elude daarna al klaar, om so half ‘n incentive te gee vir hulle om dit te kan doen, en om dit regulatory te kan enforce, maar ek wil nou nie woorde in jou mond

sit nie, maar wat sou jy doen as jy dit kon tackle en dit was jou ding om te tackle, wat sou jy eerste gedoen het?

Participant 4

Kyk, as ek die minister van pos en telekommunikasie of whatever hulle dit nou noem was sou ek beslis gesê het my department is ‘n sosialistiese kommunistiese department, want dit gaan oor diens vir almal in die land, uhm, en en ek dink as mens na ‘n regering kyk is daar verskillende dele van die regering wat jy soos ‘n sosialistiese of kommunistiese bestel moet manage en ek dink daai goed is, is, is alles goed soos uhm services to the country goed, soos railways en, en of sal ek sê basic human rights needs. Uhm is, is daar goed wat so ek sal daar ook gesê het die department is ‘n sosialistiese bestel, en ek gaan nou vir julle sê dis hoe julle dit moet doen, uhm, en uh, uh ‘n strategie uitwerk van wat is dit wat die land nodig het om die digital divide te oorkom, en wat is die investment nodig in die uh, licensing nodig en die spectrum allocation nodig en en dan vir die ouens soos sê okay jy het hierdie verantwoordelikheid en jy uh so, uh laat ek nou ‘n stappie terug vat, basiese infrastruktuur … behoort uhm ‘n pool van te wees waar almal invest, en almal bou, en die benefits wat jy daar kry is ek het nou ‘n fantastiese wowie radio network en my sales en my execution en my customer service is super fantasies, want daar kan ek compete, en daar kan ek fairly compete, uh, uh …

Interviewer

Ja, en dan wen die ou op die grond ook, want daar is meer plekke wat actually network het as opposed to ek bou een site hier jy bou een site daar en dan is daar een dorp wat gemis word.

Participant 4

Ja, en jy sien ons, ons begin nou al daarnatoe beweeg, na 30 jaar begin die ouens hulle share nou sites, hulle share fibres, hulle share uhm, so hulle begin meer op ‘n hoër en hoër vlak infrastruktuur share, uhm binne die volgende 3, 4 jaar gaan hulle RF netwerke begin share en daai tipe goed, as ons dit 20 jaar terug gedoen het dan het elke ou vandag al ordentlike koste effektiewe connectivity gehad, so nou hoe, hoe fix jy dit going forward? Uhm amper ontmoontlik ([ag] dat ek nou vir jou sê, so

wat wat gebeur is die mark het nou natuurlik evolve daarnatoe, weereens omdat hulle profit jaag en hulle moet hulle koste afbring, nou moet ons met mekaar share, uhm, wat gebeur die, die regering begin nou mense uh of, of maatskappye amper dwing om ‘n deel van hulle BEE punte moet jy nou connectivity na skole toe uitrol, jy moet connectivity na munisipaliteite kantore toe uitrol, jy moet uh, om punte te kry of om favour van die politiek te kry uh wat totaal die verkeerde dryfveer is, so ek, as ons nie daai uhm, uhm profit mentality uhm gaan addresseer nie, ja en ek, en ek wil onder geen omstandighede sê mense moenie geld maak nie, want dit, die mense moet geld maak, maar die mense moenie uhm, dit moenie nodig wees vir mense om ‘n ridiculous hoeveelheid geld te maak en nie die requirements en die basic needs van die land te ondersteun nie.

Interviewer

Yes, 100% ek stem saam met jou. Dan, dink jy [name] in jou opinie dat ‘n digital active society en ‘n society sonder ‘n divide is ‘n possibility in Suid-Afrika?

Participant 4

Ja, nee virseker, ek, ek dink dit is definitief ‘n possibility. Uhm is dit reality? Is ek nie heeltemal so seker nie, of is dit uh, uh is dit ‘n reality binne die volgende tien jaar … ek twyfel … uh is dit ‘n reality binne die volgende 30 jaar? Ja defnitief, want die, die ding het oor die afgelope 30 jaar al so ver gevorder as jy nog 30 jaar gee gaan hulle met drukke en stote daar kom, uhm maar dit gaan nie, dit gaan nie effektief of, of efficient ge gebeur nie, dit kan oor 5 jaar gebeur as almal hulle hulle wil daar insit en hulle investment en en saam werk en en probeer, en ordentlike strategieë, ek meen as jy kyk na die regering se 2020 of 2030 digital strategy hoe lank praat ons nou al daaroor? Ons, ons is nou al amper daar en ons is ver daarvan af, so die die incentives vir die, vir die industrie is misplaas.

Interviewer

Yes, wat is daar, wat, wat moet mens as jy nou sou gesê het wat dink jy sal die incentive moes gewees het dan?

Participant 4

Uhm, soos ek sê uh, uh ek dink 20 jaar terug moes ons dit ‘n sosialistiese single infrastructure roll-out gemaak het, en al die investment gepool het en dit ordentlik gedoen het, maar dit, dit het nou nie gebeur nie, uhm die, uhm uh ek dink on top of it, en, en ook ‘n groot gedeelte van die digital divide probleem wat ons het is, die die nagevolg daarvan is die ouens wat vandag in jobs sit in, in regerings sit in al hierdie besluitnemingsposisies is, is ouens wat ‘n bad education gehad het, hoekom het hulle ‘n bad education gehad? Want hulle het nie access gehad na die key principles van connectivity waar hulle inligting kon gaan kry het nie, so die, die probleem is ‘n groter perpetuating problem, uh jy weet een dag het, het ek met uh een van ons senior bestuurders van [company] het ons ‘n interessante gesprek gehad oor hoe is dit moontlik dat ‘n ANC uh mayor nie kan worry oor die potholes in sy dorpie nie, en dit, dit was vir my mind blowing en die ou het iets vir my daai dag geleer en gesê hoe kan jy verwag dat ‘n ou wat op ‘n plaas grootgeword het wat se pa ‘n veewagter was wat in sy hele lewe net ‘n grondpad gesien het wat nou skielik die mayor van ‘n dorp is, vir hom is ‘n teerpad met potholes meer belangriker as ‘n grondpad, so uhm, as mens …

Interviewer

Ja, ja dit is so, jou perspektief en diit waaraan jy blootgestel is maak ‘n groot impak op hoe jy goed sien …

[irrelevante gesprek oor politiek, audio eindig]

Appendix H: Interview Transcript of Participant 5

Participant 5 Finalised

SPEAKERS

Participant 5, Interviewer

Interviewer

Dankie weereens vir jou tyd en dat jy my die geleentheid gee om met jou te gesels.

Participant 5

Groot plesier, kan jy my hoor?

Interviewer

Ek sweer hierdie … dankie ek wil net, ja, ja hoor jy my darem? Ek wil nie moan oor die network nie want dis my network en dan is dit bad so ek bly maar liewer stil daaroor.

Participant 5

[lag] ja

Interviewer

So my, my tesis is oor die role of Telcos and bridging the digital divide wat obviously in tie met die UN sustainable goals en daai hele storietjie wat jy baie baie beter weet as wat ek of beter verstaan as ek, die die gedagte vir my is maar om met industry experts te praat uhm, Telco providers waarmee ek nou gepraat het en toe [name] vir my sê ek kan met jou ook praat toe dog ek wel dit sal great wees want dan kry ons nog ‘n unique perspective op die … ek sweer ek gaan dit verloor met hierdie ding …

Participant 5

Nee dis okay, ek, ek hoor jou baie duidelik.

Interviewer

Al sê hy hy gaan weg aan my kant hoor jy my nog steeds?

Participant 5

Ja, ek hoor jou nog steeds.

Interviewer

O okay, great.

Participant 5

Ek sal vir jou sê as jy wegraak, moenie worry nie ek sal vir jou …

Interviewer

[lag] dit sou nou akward gewees het as ek begin vloek het en jy is soos uh ek hoor jou nog steeds dude hou op vloek.

Participant 5

[lag] dis okay.

Interviewer

Uhm so ja ek dink dit is die, dit is maar die gedagte en wat ek wil doen so, uhm ek dink as ons saam werk kan mens dit gedoen kry, en hopelik uhm wat hulle my ook baie mooi laat verstaan het my uhm my sponsors is sy het gesê moet asb nie dink jy gaan die wêreld verander met ‘n meesterstesis nie, jy hoop net mense kan bietjie meer dink en bietjie meer krap en hopelik sal jy net hulle verder laat dink so dit is maar die gedagte en hopelik laat ek ouens, ‘n hele paar mense bietjie verder dink en shed a little bit of light somewhere, dis maar my gedagte en hopelik kan ek dit reg kry, uhm, so die eerste vraag wat ek jou wil wil vra, is net waar werk jy, hoe lank is jy al daar en hoe lank of hoeveel ondervinding het jy al in die Telco industrie?

Participant 5

Off course, nou gaan ek my ouderdom weggee, maar ek werk seker al hmm ‘n goeie 25 jaar in die Telco spasie, uhm baie baie jare terug in die [province] toe ek nog in die [province] gebly het het ek begin by ‘n maatskappy van [company] uhm ek het met my verskeie maatskappye en organisasies gewerk en ek het so 12 jaar terug, dis ‘n baie lang storie en jy kan ‘n hele tesis daaroor skryf, het ek uh, uh ‘n industrie organisasie begin wat wat gekyk het net na die uitrol van vesel infrastruktuur, fibre optic infrastructure in Suid-Afrika, en ek doen dit nou al 12 jaar wat ek ‘n lobby groep het wat, uhm wat met die regering praat en ons het gegaan net van spesifiek gefokus oorspronklik na, na vessel en vandag werk ons met alle digitale infrastruktuur, data senters, towers, uhm noem dit enige iets wat connectivity bevorder.

Interviewer

Okay, great, sjoe, okay so it’s been a long time so jy het al alles gesien, ook gebeur in die industrie, die selfde as [name]?

Participant 5

Ja nee, daar ja.

Interviewer

Van die 3310 al die pad tot waar ons nou is [lag]

Participant 5

Ja, ja en ek het al die startups perform, [beide praat gelyk, onduidelik], ja, ja so uhm die ouens sien, toe hulle nog op bokse gewerk het in ‘n agterkamer het ek hulle geken.

Interviewer

Wow ja, dis next level né, dit is baie cool, uhm as jy in as ek sommer dadelik net so van die staanspoor af kan inspiring, uhm, het jy al enige practices of goeters gesien wat mense of Telcos gedoen het in Suid-Afrika uhm, wat hulle probeer het om die digital divide te bridge, uhm en as daar enige goeies is wat uitgestaan het wat jy

dalk kan aan dink en eniges wat dalk ge gefaal het en dan kan jy maar sommer sê hoekom het jy gedink het dit gefaal, of as jy dalk self weet, uhm en dan gaan ek ‘n opvolg vraag vra op dit

Participant 6:

Ja, dit is ‘n baie maklike antwoord want daar is nie regtig iets wat al ooit goed gedoen is nie, uhm ek sukkel regtig met die konsep van hoe, hoe ons kyk en uh in ons met benadering oor die algemeen as dit kom by die uitrol van vesel, wel van enige uhm broadband infrastruktuur, en uhm, uhm ek dink uh jy weet die regering het ‘n paar pogings aangebied deur programme soos SA Connect uhm en op, op local government vlak is daar ‘n paar pogings aangewend, uh [province] provincial government het uh jy weet ‘n poging aangewend maar uh dit, dit faal maar meestal uhm, daar is projekte wat kyk na free wifi en om free wifi uit te rol, maar maar, uh ja, uh dit is daar is daar is ek bedoel dis ‘n baie lang gesprek hoekom dit werk en hoekom dit nie werk nie, vir my is die digital divide een van die grootste probleme is dat dit, dis nie net connectivity nie, ons kyk altyd na die digital divide en ons dink dit gaan net oor om connectivity iewers te kry, maar maar die digital divide is ‘n ekosisteem, so jy het connectivity nodig, daai connectivity moet affordable wees wat ons weet ons mobile broadband nog glad nie naastenby is nie, uhm so as jy affordable connectivity uitgesorteer het dan moet ons praat oor devices en uh spesifiek smart devices, jy kan nog steeds niks doen as jy nie toegang het tot ‘n device nie, en of dit nou ‘n, ‘n, ‘n foon is of ‘n tablet of ‘n laptop of wat dit is uhm, jy weet dit is nog alles dit al, al daai hele problem moet, moet opgelos word, so, so uh as ons, as ons praat van uh en en daar is natuurlik baie vlakke daar so ‘n fisiese connectivity as dit kom by die digital divide en dan is daar ‘n ook goeters soos access to content, jy weet en die koste van data, so in Suid-Afrika uhm en ek sal dit vir jou stuur as jy dit wil sien is daar, het ons so net oor 1,000 sites wat ge-zero rate is, en uhm en mobile operators zero rate hierdie sites, maar dis gewoonlik maar educational content so, hier en daar is daar [beide praat gelyk] … exactly ja, so kyk en ek, en ek dink ‘n 1,000 sites is baie, so dis, dis nie net jy weet mens kan nie, dit nie net afskryf nie en die mobile operators waar hulle gevra word om iets te zero rate en hulle sien waarde daarin en hulle dink, en jy weet hulle glo hulle kan ‘n verskil maak, dan doen hulle dit, jy weet hulle trek nie hulle neuse op nie, en van daai

goeters is al, is al misbruik, jy weet, maar jy't maar, jy't maar nog steeds die res van die, van die ekosisteem nodig en ek dink hoe hoe langer ons in die digital divide is hoe meer begin ons besef dat die groot dilemma is actually die access to devices, nie soseer die access to connectivity nie, daar is baie wifi hotspots en daar is baie zero-rated sites, maar as jy nie 'n uh, uh 'n reliable device het wat dit kan bykom nie, so dis jou device en dan moet daai device natuurlik battery life hê, so as jy nie toegang het tot elektrisiteit nie weet, dit is al hierdie dinge se, se, dis 'n bietjie van 'n different slant op die digital divide maar dit is nie iets waaroor almal praat nie, uhm, en hierdie is van die goeters wat ons moet, wat ons moet verby kom, en uhm overcome, en daar is van hierdie projekte waar ons klaskamers bymekaar, jy weet uh klaskamers opsit maar daar leer jy mense net hoe om 'n laptop te gebruik jy weet, dis hoe jy 'n laptop gebruik, daar control alt delete, jy weet, jy leer hulle nie wat jy met dit kan doen nie. So die mag van die internet word nog steeds nie, uhm jy weet uh regtig en en en ek het 'n, ek het 'n paper daaroor wat ek met jou sal deel wat ek eintlik geskryf het in 2020, uhm toe ons net in die pandemie in gegaan het en almal histeries geraak het oor die digital divide want daar was 6.5 miljoen kinders wat by die huis gesit het sonder toegang tot enige education, toe almal huis toe gestuur is, en jy weet, die pandemie het regtig vir ons gewys hoe groot is hierdie digital divide, en uhm en, en die probleme wat aangespreek moet word, maar jy kan nie 'n kind in 'n, 'n uh e-school of in 'n e-klaskamer sit by die skool en dan stuur jy hulle huis toe met niks nie, want baie navorsing het gewys dat is nie, jy, jy kinders leer die mag van die internet as hulle toegang het tot die internet, en dit gebeur nie in 'n klaskamer nie, dit gebeur wanneer hulle self in 'n safe environment, natuurlik nou met jy weet met beperkings op wat hulle kan toegang tot het maar, maar dit is, dit is die mag van die van die internet.

Interviewer

Ja absoluut, ja ek dink jy het sommer klomp goed geantwoord wat ek nog wou vra in opvolg vrae al klaar geantwoord, so ek is bly daaroor dankie, [name], ek, ek, in jou opinie, en ek dink jy het pas bietjie daaraan geraak, dink jy dit is iets wat mens makliker sal reg kry as almal saam werk, uhm almal in hieride ekosisteem of is dit net 'n ICT provider wat dit kan doen, so is dit net 'n WISP of uh tel network provider

wat dit moet doen die digital divide, of is dit almal in die ekosisteem? En ek dink jy het al klaar amper so half dit ge … geantwoord.

Participant 5

Ja, so almal in die ekosisteem en jy gaan my net herinner want daar is so baie content hieroor, soos ek sê, uhm almal in die ekosisteem gaan saam moet werk, partykeer dan druk ek die knoppie dan gaan hy nie stil nie … uhm, so almal in die ekosisteem gaan saam moet werk, uhm een van die dinge wat, wat ek bedoel dis ons grootste probleem is ook dat ons weet mos maar dat daar is ‘n business case, as jy kyk na die area waar jy fibre moet uitrol is daar ‘n business case wat moet [onduidelik 10:22], so jy gaan nie net kan fibre uitrol na enige area toe nie, met party plekke is dit, is dit baie moeilik om ‘n toring op te stel en en en jy weet om ‘n toring te gaan bou, jy weet jy moet ‘n belegging maak in die uptake en in die, jy weet ouens gaan nie regtig, so so vir my daar is dit uhm maak tower cos? [onduidelik] ‘n bietjie meer sin waar hulle jy weet meer as een tenant kan hê wat die assets afbetaal en seker maak jy weet wat dis nie net een ou wat, wat jy weet jy daai kostes moet dra van daai investment in die infrastruktuur nie, maar die regering het tog ‘n rol wat daar gespeel moet word, en ek weet nie of jy weet uh daarvan nie maar uh in 2021 het die regering ‘n broadband access fund aangekondig, wat hulle daarna kyk om privaat maatskappye te incentivise om uit te rol, uhm baie van die, van die jy weet van hierdie ander projekte was nie sustainable nie, SA Connect maak baie erg uhm staat op CITA? [onduidelik]. As, as die meganisme waar wat hulle gebruik om uit te rol en dit dit gebeur net nie vining genoeg nie, ek dink, ek weet nie wat die nuutste nommers is nie, maar op ‘n stadium was CITA oor die 1,000 sites agter, en dit is net regeringsgeboue wat hulle moet connect, so dis net dit is nie moontlik vir, uh ja, jy moet ‘n, daar moet ‘n vertrekpunt wees tussen die regering en die privaatsektor om saam te werk, en die regering het ‘n verantwoordelikheid om seker te maak dat die privaatsektor, maar daar is nie incentives vir die privaatsektor om verder uit te rol as wat hulle huidiglik dit doen nie, uhm en ons sê maar ek gaan vir jou ietsie sê wat miskien bietjie meer uhmk wat is nou die woord, dis nou so bietjie meer kontroversieel maar in baie gevalle is diek is dit die gemeenskappe wat die meeste gaan baat by daai connectivity wat hulle eie grootste vyand is want hulle het hierdie business forums en uhmk uh noem dit wat jy wil so tipe gang construction mafia wat

dit so moeilik maak om in die gemeenskap in te kom dat dat die ouens vermy dit maar net, jy weet die operators, ja so dis klaar nie lewensvatbaar nie, dis klaar hier, dis klaar daar en nou moet ons 30% uit die gemeenskap uit dit vat ons 3 maande net om die skills transfer te doen dan begin ons bou, dan kom ons halfpad, dan moet ons nuwe ouens employ en dan besluit die gemeenskap en dan kom jy 80% met die toring en dan het iemand nou gehoor dat 5G dis dis net eintlik ‘n LTE toring, maar 5G gaan nou vir ons een of ander iets gee, dan spring hulle op ‘n band wagon.

Interviewer

[lag] Ja ek stem saam met jou, ek dink jy het weet uhm, ek, ek like dit want die, dit beteken die, die vrae loop lekker op mekaar, want die volgende vraag was hoe, hoe manage mens daai, daai, daai balans tussen profit en purpose, maar ek dink jy het dit klaar nou so half genoem en dan natuurlik die policy and regulatory benefits, maar ek dink dit, dit het jy ook reeds genoem, so dink jy dat as mens kyk na aan die, aan die digital divide en en hoe mens dit moet tackle is dit iets uniek aan, aan Suid-Afrika, uhm of is dit ‘n wêreldwye tipe ding?

Participant 5

Nee, dis ‘n wêreldwye tipe ding en ek kan vir jou sê Amerika het nou net uit soos 500 miljoen dollar beskikbaar gemaak vir uhm, met, met Amerika is dit meer soos ‘n rural divide en en in Suid-Afrika se konteks wat ek dink nogal belangrik is is dat daar is ‘n digital divide en daar is ‘n rural divide en jy kan in, in [province] kan jy ‘n digtal divide hê, ek bly in [location], maar net hier langs my is [location], en binne in [location] is daar jy weet ‘n digital divide so, dit is so daar is daar is twee areas waarna ons kyk in Suid-Afrika, dit is die rural divide opsigself want dit is waar die business case nie opstack nie want dit is net so ver en jou konsentrasie jy sal hierdie dinge beter as ek verstaan verstaan want jy is in [province], jou konsentrasie is, is baie laer, uhm maar in die stad, in die stad het jy under-serviced areas wat ook sinspeel op die digital divide, dit sit onder die digital divide en daar is massiewe areas so absoluut massiewe areas en daar gaan dit meer oor affordability by die koste van data is net nie, net nie bekostigbaar nie, en hulle kan dit net nie uitrol en dit deliver nie, wel … ja.

Interviewer

En sê vir my as ons jou nou vandag sê [name] jy is nou in charge van hierdie, jy moet dit nou vir ons tackle, die digital divide in SA, en jy het Carte Blanche om dit te doen, wat is die eerste ding wat jy sal tackle?

Participant 5

Ek sal heel eerste seker maak dat die incentives is in plek sodat privaatsektor kan uit rol, na ander areas, na laer inkomste areas toe en dan daai dat hulle daai besigheid business case sin maak, daar is verskeie plekke waar dit reeds gedoen is en waar dit werk, ons doen dit nou in in Engeland, in die UK, verder ek wil net om [unrelated personal comment]. So uhm anyways, so uhm, so okay ek is so dit is een ding ek sal defnitief die incentives in plek stel, ek sal daar is baie barriers to entry rondom dingeses, rondom bayleaves [onduidelik 16:22] en, en wat die bayleaves wat die kostes daaraan verbonde om uhm jy weet, uh [irrelevant personal comment] … Die kostes verbond die regulasies is, is heeltemal te cumbersome en te moeilik en ek dink jy weet daar ons kan baie van die wetgewing, van hierdie wetgewing is baie oud en dit moet hersien word om dit makliker te maak om die prosesse makliker te maak, en in SA is daar eintlik ‘n paar prosesse aan die gang. So vir my is dit ‘n holistiese benadering wat ge … wat ons moet aanvat sodat ons uhm jy weet kan seker maak dat ons kyk na ‘n regulatory prosesse dat, uhm die, uhm laat die finansiële kant die business moet stack natuurlik moet ons hierdie business forums aanspreek kyk na daai kriminele aspek, en dat alles reg gedoen word.

Interviewer

Wat sal jy dink [name], sal die, die benefits wees vir die, vir die Telcos om dit te doen, om die digital divide te, te bridge en dan natuurlik ‘n opvolg vraag op dit, dink jy daar dit is ‘n possibility dat ons ‘n digital inclusive society sal kan hê in SA?

Participant 5

Ek dink verseker so, inteendeel ek dink as jy kyk teen die price points waarteen vesel geland word, ek bedoel hulle is nou uh 30 megs is seker uncapped vir onder R300 ‘n maand, so die voordeel van dit is dat jy op op fibre connect jy eintlik ‘n household, askies ek het ‘n spam, dis hoeka [company] upgrades wat my prober

bel … uhm [lag]. Uhm so, uhm so ja ek so vir my is daar ‘n paar dinge wat ek dink gedoen moet word, ons moet kyk na die price point, so hoe kan ons die cost to communicate is baie belangrik, daar moet ons spektrum allokeer en seker maak dat jy weet spektrum word vir die operators geggee want dit weet ons gaan die kostes uhm afbring, uhm dan moet ons incentives in plek stel om vesel te kan uitrol in die township areas om dit makliker te maak, baie townships byvoorbeeld, uhm, uh laat nie hulle laat jou nie toe om pale te plant nie so jy moet terrestrial fibre uit rol, jy moet ondergronds gaan, en dan is die business case in sy peetjie in, jy kan nie, dit is nie bekostigbaar nie, so jy moet kan aerial fibre uhm uitrol, uhm, en ek dink as ons daai twee, en dan natuurlik sites jy weet access to sites om torings te kan bou is natuurlik baie belangrik.

Interviewer

En dink jy dit sal ‘n groot benefit hou vir ons as ‘n as ‘n collective? Soos ‘n collective society as ons almal connect digitally en almal is digitally inclusive.

Participant 5

Absoluut, absoluut, so so kyk connectivity het twee aspekte, uhm so daar is die eerste die werkskepping wat plaasvind, deur die fisieise uitrol, so kom ons sê al die munisiplaiteite werk saam, die incentives word in plek gestel uhm die, die local authority by-laws is van so ‘n aard dat dit maklik is, ons het access to land om torings op te sit, daar is ‘n klomp goetertjies wat, wat saam werk, uhm, dan is daar natuurlik die spin-off industrieë wat geskep kan word, die werkskepping die innovering wat kan plaasvind op die netwerke, daai jy weet al die, al die ongoing voordele wat toegang tot die internet wat e-learning net jy weet net jy kan ‘n tesis skryf net rondom die voordele van toegang vir student wat nie hoef transport te betaal nie, wat toegang het tot die klaskamer wat van die huis af kan swot, hulle ouers het nie nodig om, jy weet, daar is verskriklik baie mense wat excluded is want hulle ouers kan nie bekostig om vir hulle ‘n woonstel te huur nie of hulle kan nie die transport bekostig nie, of jy weet hierdie free fees must fall was vir my so ‘n ironiese, uhm ironiese movement gewees want al het fees gefall, het jy fisies nie die plek om die kinders te sit nie, waar gaan die jong mense sit, daar is nie fisies plek nie waar gaan hulle

op die dak sit van die universiteit, die universiteite is net so groot, so nou die, die oplossing is toegang tot affordable internet, dit is die oplossing.

Interviewer

Ja want dan kan almal connect waar ook al, ek meen ek sien met my, ek het my postgraduate graad gedoen en nou my hele meesters gedoen, en ek was nie een keer in die universiteit se gebou nie, so ek meen hoekom moet jy, jy hoef nie in ‘n …

Participant 5

Ja jy sien, maar jy kan data bekostig.

Interviewer

Ja nee vir seker, ja nee ek stem saam met jou, nee ek staaf daai punt van jou want as jy dit nie gehad het nie hoe sou jy dit gedoen het.

Participant 5

Ja presies, ja en daar is baie ouens wat regtig net excluded is want hulle kan een honderd present net nie die data, dit is net nie vir hulle bekostigbaar nie, maar dit sal interessant wees, want tegnies is daai content vironderstel om zero-rated te wees.

Interviewer

Ons het mos vir hulle, so die content en as jy mos ‘n LMS het dan, dan kan jy hom access gratis, die problem was dat die mense moes nog steeds kon in log in ‘n Teams of in ‘n Zoom call in, en toe wat ons gedoen het is ons het mos vir al die studente, voltydse studente, by meeste van die [irrelevant conversation, interviewer’s perspective].

[continued casual conversations]

Appendix I: Interview Transcript of Participant 6

Participant 6 Finalised

SPEAKERS

Interviewer, Participant 6

Interviewer 00:03

Speaking in Afrikaans not related to the interview.

Interviewer 00:57

My, my, my Meester Dissertation is oor die role of Telcos in bridging the digital divide in South Africa en dit tie in met daai UN sustainable goals wat almal nou wil doen en wil kry en al daai tipe stories en dan gaan ek jou nou `n paar vrae vra wat almal nou doen en dan vat ons dit van daar. So as ons kan afskop watse maatskappy jy is, hoelank jy daar is en hoeveel jaar is jy in die Telco industrie?

Participant 6 01:28

Ek gaan dit sommer in Engels doen want dit is net baie makliker.

Interviewer 01:31

Perfect.

Participant 6 01:31

Okay, so I'm, I'm [name] are currently work with the [company] telecoms group. And I've been part of the actual telecommunications industry for close on 20 years. And I've been part of [company] telecoms group for the last 15 years.

Interviewer 01:57

Okay, so you've seen everything [name] from 3310 all the way up to iPhone 13 basically.

Participant 6 02:05

Yeah, definitely. I mean, I think just quickly when I when I started in the industry, it was around about 2004. Back then, I really dabbled in postpaid and contracts and upgrades and, you know, didn't really sell a lot of prepaid SIM cards. Uhm so my my expertise was really around the the postpaid market. But when I started [company] telecoms, we we started dabbling in the airtime and prepaid electricity market, as well as the prepaid SIM market. And I'm sure everyone knows [company] telecoms, but predominantly a prepaid distributor for the mobile network operators in South Africa. So yeah, I mean, from our side experience wise, I mean, I've seen I've seen a lot of markets, physical and virtual and digital, in terms of the Telco space. So yeah, that's, that's where that's kind of my experience summed up high level.

Interviewer 03:09

That's fantastic. Uhm [name], so obviously, with your experience only in South Africa, for the purpose of this conversation. Have you seen any good initiatives in South Africa? Trying to bridge the digital divide? And if so, what made them work? And is there any failed ones that you could also remember and why you think they have failed?

Participant 6 03:32

Yeah, I think just from a, from a positive perspective, I think, you know the mobile network operators, or always working closely with, you know, the, their customers and the suppliers as well as government to try and to try and reduce costs and affordability to the consumer. So I think, you know, where this industry started, you know, a lot of, a lot of people obviously signed on to postpaid and got a phone for free and got a lot of minutes. And you know, voice voice got saturated, and data was the next best thing. And data launched, and it was expensive, etc. And the network's actually at the end of the day, you know, transformed data into LTE, to try and make it more affordable. But overall, obviously, everything comes at a cost. I think from a positive perspective, I think all the mobile network operators have really, over the last, I would say, three, four years have managed to, to make data really affordable for for the consumer. And that obviously results in a accessibility for for the masses. The other the other part of it is, is there nothing, you know, what we

saw just before COVID, and actually during COVID is that there were a lot of specific URLs or community-driven projects, and as well as closed user groups where the networks actually came together to actually zero rate data usage around that. So now that just presented the opportunity for consumers who never had access to the digital world in terms of social media, the internets etc., to actually have access to that. So from that perspective, you know, that those are positive things, and in and really bridging the digital divide between certain certain sectors within our economy or landscape from a population perspective. I think from a negative perspective. Yeah I can't really comment on that. Yeah, there's nothing specific. I think, just from a sector perspective, I think what, what we, what could have been done better, you know, to draft down affordability and price and give consumers more access quicker than what we've actually done over the last four or five years, is obviously the spectrum issue. And I think releasing spectrum to the mobile networks to, you know, to afford them the ability to actually drop price down. And also, I think, from a, from a government perspective, public sector and private sector coming together to see you know, what kind of grants or funding could be put together to actually look at a kind of specific data grant or smartphone grants, etc, in the technology sector or telecommunications sector. So, you know, one thing is they we sit with today, we sit with child grants, and you sit with food grants, etc. But it doesn't really look at a technology slash telecommunication grant. And I think that will also, you know, contribute to bettering education for for the youth, if something like that could potentially be the affective.

Interviewer 07:04
I think, before we started recording, you said, if there's any questions that you can't answer, you'll just pass. But I've got about eight questions with some sub-questions in them, but I think you've touched on pretty much all of them. So I don't think you're going to have to pass on any of them. But I'm going to just, I'm just gonna, for the purpose of the study, just gonna ask you a couple of questions. And I'll allude also to the ones that you've touched on. And then you can maybe just elaborate on them. But the obviously the good initiatives you've spoken about and the failed ones, we've also, we've also touched on or positive areas that we could possibly grow on. Do

you think that a collaborative effort for the industry would be a better option? Or do you think that oaks just working on their own is a better option?

Participant 6 07:53
So I think traditionally, you know, again, talking about when I started in industry, that's the industry that we all know, and I think that all the network operators adopted now, sticking to South Africa, and comparing that to what's happening internationally. I think that our operating model in South Africa is very unique. You know, you get international markets, you've got complete competitor network operators, actually sharing base stations and connectivity, etc. So do I think our current model is, is the right model? I think it suits, it suits South Africa. But I do think if we want to really fast track, the you know, the access to call it first world kind of products and and ensure that all, all the masses of all South Africans are actually connected and have the ability to access the internet, I do think that a more collaborative model between mobile network operators, not necessarily from a commercial perspective, but definitely from a infrastructure and technology perspective, could potentially be a better model?

Interviewer 09:13
I agree with you [name]. If, if I could jump into the next question, what would you in your opinion, would you think would be the biggest reason a Telco would want to address the digital divide? And then the follow-up question to that. How do we manage that balance between profit and purpose?

Participant 6 09:33
I think let's just deal with your first question. I think from a from a network operator perspective, I mean, it's really key because if you understand the, if you understand the actual and I can put it this the infrastructure or the network capacity, I think it's in from a profitability perspective. It's in the network's interest to try and fast track the the digital inclusion much faster than then what we're doing today. Because ultimately, if you look at 2G, 3G, 4G 5G, ultimately, you know, it costs network aims, or quality, it cost networks a lot of money to keep 2G and 3G going, and necessarily, from a profitability perspective maximising at the 4G and 5G level. So ultimately, at

the end of the day, you know, you can look at it both ways, it will serve the network from a profitability perspective, but at the same time, the quicker we can actually, you know, gain momentum from that perspective and provide consumers with access to 4G, and 5G, ultimately, that will serve a purpose from a social responsibility perspective as well. You know, and yeah, I mean, ultimately, a network definitely what definitely wants to breach that devide? Obviously, at the end of the day, you know, it's, it's how do they get there from from? And I guess at the end of it, it goes around to my answer previous on your previous question is just, you know, around spectrum allocation and actual capacity.

Interviewer 11:14
So if you if you would think about the regulatory or policy or financial constraints, like I think you've touched on just now, that will obviously be some of the key elements that you will need to touch on. And taking that into into account and bearing that in mind. If we were to say, [name], you are in charge of getting this thing sorted out, bridging the digital divide, which would be the first things that you would tackle to try and get to that?

Participant 6 11:46
Sjoe that's a very loaded question.
[Both interviewer and participant laughing.]

Participant 6 11:51
Yeah, well, I think I mean, ultimately, you know, you got to look at the, you got to understand the market that you're attacking. And whether the low hanging fruit and quick turnaround opportunities or so, you know, ultimately at the end of the day, is is to understand the population, and to obviously understand, you know, where there are pockets within the, within the country where there is no connectivity, you know, and where people, unfortunately, don't have access to 3G and 4G, whether that being a network access constraint, or from a population perspective and affordability issue, you know, so, so, from my perspective, I would actually go about it in a way of what was I in my mind, call like a election kind of campaign, because you can't do everything at once. So really, you know, splitting the country up in pieces,

understanding where the low hanging fruit and opportunities are, and try and maximise with the funds that gets allocated to it maximise the actual impact that it's got on the number of people that you actually impact by geographical area.

Interviewer 13:10
Absolutely. And do you reckon from a, like a regulatory or governmental point of view policy, or those type of things? Do you think something like incentive to the Telcos and not just the network operators, but the Telcos, IDC in general, would ever have a positive effect, if you could possibly incentivize them with some sort of like, I think you mentioned spectrum or a kickback of some sorts, which do you think they would have a positive effect on the big devide?

Participant 6 13:42
Yeah, I mean, listen, I believe spectrum is one thing, and I think a lot of people don't really understand what spectrum means. But I think ultimately, at the end of the day, you know, government, government drives, government needs the public say, of the government needs the private sector, in my opinion, because government can't do this on their own right.

Interviewer 14:03
Yeah.

Participant 6 14:03
So ultimately, you know, if government's got, you know, what's the government's got institutions like the YES programmes, and the bees and the bat [phrase unclear] but I'm saying, ultimately, at the end of the day, those kinds of things are grants for job creation, etc. But in my, there's nothing really to incentivize the private sector, from a tax break perspective, to actually put a smart device in, in a in a consumer's hand. So, you know, job creation is one thing. And I do believe that in the event that a consumer has access to a bit of data and a smart device, they would have then the opportunity to be included in the cycle of you know, looking for a job or the the employment cycle. So I think they're going about it in the incorrect way, in my opinion. I mean, I noticed the article last week that launched where, the Minister of

Communications was actually saying that government will buy, I think it was in the next two to five years will include every household will be provided by with 10 Gig. You know a statement like that, it's a very dangerous statement. Because ultimately, there's a there's a capacity issue at network level. And there's a cost, you know, cost implication. So, ultimately, again, at the end of the government's going out making these statements, instead of, you know, sitting with the private sector, and understanding what the actual issues in terms of the digital divide, and then coming up with creative solutions around, you know, if you go to market with this, and there will be a tax break on VAT if that ...

Interviewer 15:54
Makes complete sense. [name], the last couple of questions I've got for you, is it in your opinion? Do you think digital active society in South Africa is a possibility? And if so, if you could elaborate, and then I've got one follow up question on that, and then I'm not gonna steal any more of your time.

Participant 6 16:14
No problem. Um, so what you mean by digital active society?

Interviewer 16:19
Do you think we will get to a point where we'll, we'll have, let's call it 90% of our population, connected to the internet and actually using the internet on a, on a regular basis and actually getting the benefits out of being digitally connected?

Participant 6 16:35
So, I mean, again, you know, we've got a lot of, you know, if you look at the industry over the last the last 12 years, you know, it's evolved. And if you look at it today, again, I personally believe it comes down to two things, it comes down to affordability on the one side, and what kind of product is being provided to consumer that's affordable. And on the other side, it's about job creation, because someone requires an income to actually afford a product, right? So not to digress, I do believe we can get there but again, I want to go back to you have to have some sort of, I don't want to call it grand scheme, I`ll probably call it a all inclusive, digital upliftment

programme that will be launched within the country, by the public and the private sector, and then taking that to market. So it's not impossible, but they have to do it collectively. Because, I mean, ultimately, let's just say, we put a stake in the ground, and we want to bridge that digital divide. By in three years time, you know, that's also got a knock on effect in terms of the capacity on the network, you know, so, so ultimately, I think it can be done. But I think we've got a long way to go, because there's a lot of legislation, you know, around, you know, getting those kinds of things done, that could potentially hamper the growth of, of, of the digital world within South Africa.

Interviewer 18:18
100%, the follow up on that [name] is if we do reach that goal, whether it be in 5, 10, 6 or 20 years, whatever it is, do you think that that would have a positive effect on our economy?

Participant 6 18:32
Definitely, a definitely, definitely think so. But I think at the same time, we, you know, as we bridge the digital divide, I think a key component for us to actually reap the rewards from from that strategy is to ensure that our educational system is is that of a first world because ultimately, at the end of the day, it doesn't help you bridge the digital divide. But, you know, people from an educational perspective is, is, is not I don't want to use the word intelligent, but I'm saying people aren't savvy enough to actually utilize what they need to utilize within this digital inclusive world. So yes, I think there there is in the economy will definitely start increasing and growing year on year. And again, the third leg of that is obviously job creation. So yeah, you know, ultimately, I still believe if someone is digitally included, and they do have access to the internet, that you have access to social media, the probability of them actually accessing jobs is more than likely then when they're not inclusive within the within the digital world.

Interviewer 19:55
Yeah. No, I agree with you, [name] that is it for now I appreciate your time and ek waardeer truely ek gaan ophou rekord nou.

Appendix J: Interview Transcript of Participant 7

Participant 7 Finalised

SPEAKERS

Participant 7, Interviewer

Interviewer 00:02

Ek gaan so vinnig as moontlik probeer maak.

Participant 7 00:03

Okay cool.

Interviewer 00:05

Dankie [name] ek waardeer. Okay, [name], thank you, like I mentioned now thanks for, for joining me and allowing me some time to just chat to you. If you could quickly, just tell me a little bit about yourself. So, your role in the company at the moment where you're at, how long you been at the company and how many years you've got experience in the Telco industry.

Participant 7 00:27

Okay, with the company with smartphones, I've been there for 16 years. I do all the, all the planning and of the, of the national field forces, field of guys we have out in the field. And I've been in the industry since the first cell phone switched on in [location].

Interviewer 00:46

Wow, you've seen everything from the 33 10, all the way to the iPhone 13.

Participant 7 00:53

Yeah, I actually had the first phone that switched on in my hand in [location] Town the day [company] switched it on.

Interviewer 00:58
Wow, that's amazing.

Participant 7 00:59
Yeah.

Interviewer 01:00
And how has the industry changed [name]? Like since you started, it's probably you've seen obviously everything. Did you envision when you held that first phone in your hand that it would be such a big industry, and that it would evolve and change as much as it has?

Participant 7 01:18
Yeah, I don't think anybody did. I remember [names] saying that even, even, even [name] at the time said, he said there's a, there's a, there is a ceiling to this. I think we've all learned there is no ceiling to this.

Interviewer 01:33
Yeah, exactly. I think it's, especially hey days, I've heard some good stories about how it used to be like the and obviously, you know, but I mean, it was just complete craziness. I know the first couple, maybe the first day everybody's like yeah it`s a little bit of a craze, and en almal probeer, sorry. Everybody's trying to be cool and whatever, but then it just grew and grew and grew. And now I mean, literally you can't do without your phone. It's like it's part of who you are.

Participant 7 02:02
Yeah.

Interviewer 02:04
Yeah, it's actually man.

Participant 7 02:06

Taken over your life. I was saying to someone the other day, I think, do you mind me telling you this?

Interviewer 02:12
Yeah, yeah please.

Participant 7 02:13
In the, in the world, everybody was on about the vaccine and how it's, it's a form of microchipping you. And so, so I said wait, wait wait a minute. Everybody has a microchip, you voluntarily carry it with you. Everything you say is listened to, everything you do is recorded and watched. Don't come with a conspiracy theory, you're carrying your own microchip.

Interviewer 02:36
Exactly. I was telling people actually someone in my church also one of the tannie`s one of these old tanie`s said, yeah, but you know, it's probably the chapter the times ... You've got Facebook and WhatsApp and you're carrying your cellphone with you. You're carrying it, like no one's even forcing you to carrying it around you, are you want to carry it around. So like no one has to chip you anywhere, sister.

Participant 7 03:01
You willinglly tell everybody everything about yourself?

Interviewer 03:03
Exactly.

Participant 7 03:04
Via your phone.

Interviewer 03:05
Exactly. So [name], in the 25 years and 16 years you've been at [company], what are the practices that you've seen? Like in South Africa initiatives that people have tried, Telcos or operators or handset manufacturers or whoever tried to bridge the

digital divide? And I think my follow-up question to that is any of them that stand out that's been successful? And any of them that you could think about that might be failed? And why you think they failed? Without mentioning names of course.

Participant 7 03:40
Yeah, yeah, yeah. Look I think from a, from a, from a corporate level, all Telcos are guilty of not really knowing who their customers are, everybody chases the contract base. Nobody really looks at the people that bring them the most revenue. I don't feel that most of the campaigns and stuff that the networks do even get to the mass market, even today. It's a, and it's yeah, I think all the networks have been successful. Obviously, the initial cherry on the top was everybody goes for the, for the higher income bracket to get tied into a contract. And that market is now completely bombing out. Contracts are becoming a thing of the past. People are realising it's better to buy yourself an average phone and converge your number to pre-paid, it`s much cheaper. So that, that to me is the biggest most significant move in the last couple of years, is that everybody thought that the contract business would be the biggest always and that's not proving to be the case. I think your your more savvy, tech savvy consumers realise that it's not worth tying yourself into contract. You want the freedom to move and I think your your lower LSN (unsure about terminology) customers have become a lot more savvy on how to spend their buck on, on telecoms.

Interviewer 05:10
Okay, [name] in your opinion, do you think that if the Telco industry as a, as a broad industry if they work together? Do you think that that collective effort would be better in to bridging the digital divide than what is currently happening where people are working in silos?

Participant 7 05:30
Look, at the end of the day, its business, you will never get everybody to work together. Everybody has a target to meet and everybody's target is part of the other one’s markets. I don't think you'll ever have that I mean, the only the only initiatives that really work is where government or wecasa [unclear word] enforces, enforces

things. Yeah, together I don't think, you know, on certain levels. But when it comes down to raw business, I think they're all there for the profit for themselves.

Interviewer 06:00
For sure at the end of the day, you need to keep the lights on that actually needs leads nicely into my my next question, my follow-up question. You know, obviously, like you mentioned, you know, it's business and we need to, we need to get take care of our own business, and so does all the other networks need to take care of their own businesses. But what would be the biggest reason that, that a Telco would want to bridge the digital divide? [unrelated personal comment.]. Sorry, uhm so what would be the biggest ... heerlikheid.. [unrelated personal comment in the background.] Again, sorry.

Participant 7 06:37
It`s okay, [unrelated personal comments.]

Interviewer 06:48
So, what would be the biggest reason for a Telco to want to actually bridge the digital, the digital divide? And then how do you marry them I think it's, it leads into your to your previous answer. How do you marry or manage that balance between profit and purpose?

Participant 7 07:08
Look, I think you know, date that data, data is a commodity on its own. People want it and in wanting that you have access to all these things. Yeah, the problem in South Africa is that you have, if you don't mind me using the latest [trade name] app launch. You know, when companies launch something like that, and I think they're gonna take the whole market now. And all their effort is only aimed at the, at the higher end of the market, you're not really bridging a gap. You just, you just go after the people with the most money and your, your mass market is not really getting any benefit from that. So it's, yeah, I think they need the Telcos need to change their approach on doing that. But yeah, as you said, it's, it's business. It's something everybody wants, everybody wants a phone with data, everybody wants to be

connected to something. Yeah, social media being the big one. I think on the, on the, on the banking and online shopping side, it's still got many years to go. I mean, your participants in that, that segment of the market is *[sic]* very small compared to the population.

Interviewer 08:23
Yeah.

Participant 7 08:25
And then yeah, yeah, I think the most, the most, the most important thing is affordability. Yeah, consumer affordability. I see the average revenues per user on the prepaid base. And on the overall average, it's very low, and people don't have more money to spend on on communications and but you know, that very low output. Yeah, so yeah, I think if you really want to bridge the digital divide, the networks are going to have to give the customer more access to data for the same money.

Interviewer 08:59
Yeah, I agree with you. Do you think that any policy or regulatory issues or things could be raised to actually help bridging the divide? And also the flip side of the coin? Do you think at the moment, there isn't anything that's actually pushing Telcos, for lack of a better word to do do actually work together and try and bridge the divide?

Participant 7 09:26
I don`t think there's really much of a push of it, you know, you can only let the regulatory bodies do what they can do, but you can't, it`s very difficult to enforce it.

Interviewer 09:40
Yeah.

Participant 7 09:41

And I think everybody in that, in the Telco space that the operators play within the, within the parameters that they are set on from the regulators, I don`t know how much more you can do before you start affecting profitability.

Interviewer 09:55
Yeah.

Participant 7 09:56
If a company like [company] starts running at a loss loss, [company] will just close it down.

Interviewer 10:01
Exactly biggest, because then the shareholders are not happy. And then all of this is, is a waste of time. Tell me [name] if if we were to say [name], tomorrow you are in charge of bridging the digital divide in South Africa, what would be the first thing you would tackle? Would it be regulatory policy, financial constraints, benefits, what would be your first thing that you would tackle to try and get the divide goes down or breached or smaller than what it is currently?

Participant 7 10:42
I think just, just, just the principle of access to information that everybody has it all throughout the population. I don`t know what specifically I would do, probably give more, more value, more data for the value of the in every buck. Maybe a lot of more free access to, to data. So you've got the tool, the phone is the tool. It's how much time people spend and what they can explore on that tool. And that's determined by the the amount of data that they have available.

Interviewer 11:16
Yeah. [Name], tell me are you of the opinion that a digital active society in South Africa is a possibility? Everybody connected.

Participant 7 11:34
It's very possible if there's no cost to connectivity. So your your, your big problem is that your looking at the average revenue per user, and you look at the penetration of smartphones into onto just the network view from the moment? Yeah, if you, I think we might be on 45% smartphone penetration overall, now 45 - 50%.

Participant 7 11:56
You know, that's, that's always, to me, personally, that's indicative of data is too expensive. Yeah, a lot of people have a normal 2G phone, which they only make calls from. And most people do have a smartphone, but they use it only on a wifi network. So you don't see that on your network.

Interviewer 11:56
Yeah.

Interviewer 12:17
Ahhhh.

Participant 7 12:21
So yeah, if you, if you can make it more freely available, more people will use their smartphones or ones who don't have, we'll get. I think that's a way to bridge it.

Interviewer 12:33
To bridge that. A follow-up question on that. [Name], is do you believe that that digital active society would have a positive effect on our economy?

Participant 7 12:47
I do believe so yeah, you're there's a lot of education that needs to take place, you must realise that most people, if you can work on this smart track penetration kind of thing is that the 55, or the 50% of people that don't have smartphones have not been, not been exposed to it. Has not done an online transaction to buy anything, has probably not even transacted on their banks app.

Interviewer 13:13
Yeah.

Participant 7 13:14
The networks have the same problem the banks do. It's it's, it'll take a long time. It'll take many years and lots of education.

Interviewer 13:24
[laughter] This is true, absolutely. And one of my last questions, the second last question, [name], do you think that besides the economic possibility or positive effect that would have, do you think that a digital inclusive society would have a positive effect on on society in general? In terms of innovation and healthcare and those type of things.

Participant 7 13:51
Yeah, certainly, certainly in those fields here. Yeah. Yeah. I think there's a lot of I have a friend that actually is busy working on a mental or mental healthcare product. With it, want to bring mental health to the communities. And yeah, and I mean, they base the whole thing around an app and everything and they're having limited success, because people just don't have access to it.

Interviewer 13:54
Yeah, you see, that's the, that's the issue. That's exactly the issue. [Name] ...

Participant 7 14:21
You can, you have the smartest apps you can have the smartest everything and if the people who you are targeting whatever it is, whatever product it is, don't have access to that whatever product digital product you have, it's going nowhere.

Interviewer 14:37
Absolutely. I think also a lot of the times and not trying to impose a opinion or a view on it on you at the moment with the interview. But I also think a lot of the times people handle the digital divide in a way of a tick, tick box exercises so they will give

someone a phone and they will give them a SIM card or whatever for lack of a better word. They'll give him a gig of data, let's use the example. And they take away your old phone. But that guy still only has five rand and he use to have five rand, now he still only has five rand, he doesn`t have ten rand all of a sudden. You didn't educate him and now you popping a more expensive phone for lack of a better word, because it's more expensive to use a smartphone, you pop that into his hand, without proper education, you're going to put him in a worse position. Because he only has five rand.

Participant 7 15:27
You know that those in these cases are followed up recovered, most of the phones get sold, customer goes back to his phone that doesn't consume data, because he simply cannot afford to run that phone.

Interviewer 15:38
You see, then, then, then it's all kind of counterproductive to even do those initiatives.

Participant 7 15:44
I do believe without proper education and follow up on you know, if you can put, give someone a phone like that, put them onto there, put them on some sort of programme and provide, provide reverse billing or free data, let it have some purpose.

Interviewer 16:00
Yeah I agree with you. Given the proper skills, and the tools to actually use all of the stuff that you've just exposed him to, as opposed to just popping a new device into his hand.

Participant 7 16:12
Yeah. And I think a lot of these initiatives should be done in conjunction with communities, not specifically just the town or farms work, or do you know that those

kinds of things involve a community. Find out the needs of the community? What can you do to address those needs in the community on a digital on a digitally level.

Interviewer 16:32
And then you'll probably have more sustainable growth also, because if it's something that they are struggling with, and you're helping them bridge that divide or that issue, whatever it is, then it will be something that they actually use on a regular basis.

Participant 7 16:48
If you look at what is it what are the networks, and they said, there's an area in, in the country where nobody else gets in, because they did it right from the beginning, from the beginning, they worked with the community with the community leaders, this is from rollout straight through until today. And those communities are so loyal to that network.

Interviewer 17:08
I think it's like a marriage, right?

Participant 7 17:11
It`s a marriage.

Interviewer 17:12
And I think I know what area you talking about. And like you can do whatever you want to come up with whatever initiatives and throw money at it and extra thought and whatever you wanted. It's just not going to move the needle in that province because yeah, it's, it's family. Like, I'm not going to forget about my sister for argument's sake.

Participant 7 17:32
Yeah, loyalty.

Interviewer 17:34
Yeah. Yeah, exactly total loyalty. [Name] I thank you so much for your time. It was just a couple of questions, and I didn't want to take too much of your time. I see luckily, I'm giving you are giving you like, nine minutes back or eight and a half, so it's not too bad. And I appreciate your time and your your willingness to just, you humour me and share your insights and experience. And I will share the conclusion with you and hopefully you'll find some interesting insights in, in the, in the conclusion that I that I put forth in the end.

Participant 7 18:08
Super, I look forward to it [name].

Interviewer 18:10
Dankie [name].

Participant 7 18:11
Plesier man.

Appendix K: Interview Transcript of Participant 8

Participant 8 Finalised

SPEAKERS

Interviewer, Participant 8

Participant 8 00:02

Okay, happiness I hope I can help.

Interviewer 00:06

Ek hoop ek, ek weet jy sal. Ek hoop net ek kan klaar kry dis al waarvoor ek .... Okay, hier gaan ons in Engels. Alright dankie baie. So [name] thank you for agreeing to participate in the interview, I'm doing my Master's dissertation on the role of Telcos in bridging the digital divide, tying that into the UN Sustainable goals. And I'm going to ask you a couple of questions, and you can just answer them, and then we will lead from them. And I'll try and keep it as short and as sweet as possible. Thank you for agreeing to give me some of your patience.

Participant 8 00:42

My pleasure, I hope I can assist you.

Interviewer 00:46

Thank you. So if you don't mind, just telling me your role in the company, how long you've been in the company and how many years Telco experience you've got?

Participant 8 00:55

Okay, um, do you really want to know. I am like the furniture so, I'm [name]. I am the [position] in [region[. So I have a regional responsibility. I look after a vast area, which compromises the [province] and the [province], and a small portion of [province] and a tiny bit of [province]. So that is the area we look after. My history and experience with [company] and I have been with [company] for approximately

16 years in in in the Telco industry. I uhm started off in the [company], which is the learning portion of the business built up [company] in the central region. After that, I moved over to sales uhm where I looked after the post and the prepaid areas as well as the call centres in central region. And I moved over to marketing, looking after marketing role, and I was in the whole process where the company change the marketing role into a go to market position where there was more integration with marketing and sales. And I have currently been in the position of [position], which basically looks after everything I've told you for about four years now, almost four years.

Interviewer 02:39
Time flies when you're having fun.

Participant 8 02:41
I guess so I think the only thing that I've only been in central region. And I haven't really been in other portions of the country or at head office. But I think we have a good good interaction with head office and with the other regions.

Interviewer 03:01
Absolutely. I've spoke to a couple of people the other day also with, with been doing interviews, and I think there's there's definitely two camps. The one camp is get as much exposure as you as you can, in all different business units. And the other camp is be a complete expert in your area, and know your area thoroughly. So, I think the best of both is obviously the ideal position to be at but also depends on where you want to go and what you want to achieve. And I mean, if you don't want to leave central region, then better to head up central region and someone that knows exactly what goes on in central region. [Name], you've obviously seen everything from the 33 10 the iPhone 13. Which is really fun as long as you were working at [company]. In, in your time working in the Telco industry. What are some of the practices and initiatives that you've seen from Telcos in trying to bridge the digital divide? And a follow-up question to that? Is there any good ones that you've seen? And any failed ones and reasons why you think they were good and why they failed?

Participant 8 04:14
Okay uhm specifically and in what specific area [name] do you want me to focus on?

Interviewer 04:23
Any area it doesn't it doesn't matter, wherever it's part of the digital divide. It doesn't have to be in CPU, EBU central wherever, wherever you've seen anything happening, and you thought, well, that was a great initiative and why you think it worked, or maybe something that you were part of and tried, and it didn't work. Like I explained to one of the other people I had an interview with when we did Impesa I was part of that I thought it was a great initiative. I just think that we underestimated the power of the banking industry in South Africa, we also underestimated the fact that people were reluctant to do, do, adopt to a FinTech type of business back then. And we made the barriers to entry, way to involved and difficult for people to actually jump on board. But I mean, that's the type of insights I would like ...

Participant 8 05:14
[Name] I think the first thing that comes to mind when I when I think of the Telco industry and, and South Africa and our education system, for me, E-Schools was definitely a digital app that [company] created, that I truly believe has the potential to bridge that gap, I don't think we've reached the full potential with it. I think, with inception, many years ago we drove it extremely strong as a region, we went into schools, and we actually use the tool to create almost our corporate social investment to say, we are here to help people specifically in rural areas, bringing bringing education to them, because for me, the biggest gap in society is education. If you look at not even and I am excluding public schools, if you just look at government schools, and the different types of government schools, you specifically find, and it's all across the country, but specifically in in central region. I'd like to pause there to say in an area like [town] which is a small area on the [province] border with us near [town], and they are a lot of public schools. I was there recently launching and speaking at [area] schools, and this schools, the kids day, and my daughter is in a in a public school, that that quality of education, her exposure to

digital, to computer labs to to do cell phones, technology, is extremely vast. And you go into an area like [town] or [area] and those children have never sat behind a laptop, needless to say, a desktop. So, cell phones are part of the future and I know it's something that we we we've trying to drive out there, like you mentioned, I've been in the company for so long, try to drive out the 2G devices and bring in your android devices so that children can get exposure because, in an because if you can get the education level, it's almost like the foundation of of future business and economics within our country. So, for me, E-Schools skill set is something that really stands out. Where we have made tremendous advances but I believe there are still huge gaps, where we can either kind of bridge those gaps.

Interviewer 08:15
[Name], thank you for that. Do you think, what do you think is the reason why E-School is being so powerful and so successful? Is that as a result of the zero rating the fact that there is no cost and it's not limited to [company]? What would you think is one of the reasons or some of the reasons that it is being so successful?

Participant 8 08:36
Uhm, [name] earlier you spoke about with with Impesa and the intricacy of accessing and loading money and etc. I think he E-Schools makes it simple and Facebook is kind of like the general access people know how to work Facebook. And often when I speak to the kids in the area, as soon as you relate to Facebook, it's an easy app to work. And I think the other fact is we didn't try to reinvent the wheel. We partnered we partnered with Department of Education too, so we didn't create the content. And the content was there and uhm it's a content that is written for that specific, grades, it's written out of an education perspective. So, I believe that firstly, the content is is the right content pitched at the right age group because it is trialed and tested. It's not something that we as a Telco went and developed, we didn't sit in an air-conditioned office and and try to think what a child that doesn't even have a playground is thinking of and I think what we've done right with this is education is a universal topic. And it doesn't matter whether you have food on your table with you whether you have a roof over your head. Education is something you can't take

away from somebody. So, whether I'm poor or whether I'm rich, if I have the will to want to learn, we all equal.

Interviewer 10:12
Yeah, for sure.

Participant 8 10:13
And I, does the zero rating have an effect? Uhm yes, because people don't need to pay for it, but I don't think that's the selling, I don't think that's the main selling tool. I think that bringing education to an and leveling the play field for me, is is a bigger portion than rating it.

Interviewer 10:42
Okay, so effectively the fact that everybody's got access to the same information.

Participant 8 10:48
Yes.

Interviewer 10:49
Okay, great. [name], do you think? The do you believe a collective effort for Telcos uhm is the way forward? Or do you think that just working for lack of a better word in the siloed approach is the way that we going to bridge the divide? So in other words, just Telcom working with Telkom and [company] with [company] and [company] with [company] and [company] just with [company]? Do you think a collaborative effort is the way to go?

Participant 8 11:21
Um, [name] uhm I am my opinion is I like competition. And I guess it's because of my background in sales. So sales, and competition drives me as a person, and I believe it drives our industry as well. Uhm my, my view is that if you look at your smaller companies, you mentioned a [company], let's look at at fiber, for instance, which is just a small portion, a leg a contributing factor to, to the majority of the Telcos. If you look at the fiber, you've got a lot of smaller fiber companies popping

up your [company], your [company] and your [word unclear]. And I believe that if we collectively take hands with those, in a collective sense, I think that is important because they can't compete with the big dogs, they running in a wrong race. And if you want to support the smaller, let's call them SMMEs, as well, in fiber in specifically fiber that we're looking at now. Yes, we need to collectively collaborate and take hands because it's a it's a battle loss for them. And it's a battle for us as well, because we can't compete pricing wise. But if you look at the big players, I would not take hands with a Telkom and an [company] and a [companay] who's not here ready, are they at this stage, because I believe competition is good. And I believe innovation comes from competition because they lead in some areas we lead in other areas, and our business models are different. I mean, their model is our, ours in [company] is a more conservative model. Uhm if you were to invest money on the stock exchange you would and looking at [company] and [company] in, and if you want to take a risk go with [company] because they're going into the African areas, they're going to the areas where we don't go in we are conservative, more post type market and companies. I believe there is a place for for all the Telcos to to do work on the book on as individuals and in but in certain instances, possibly to take hands or to offer offer almost like a E-Schools that we've offered to say we we've zero rated it and any networkers would have access. That would be a fair playing ground to the guys out there, but I believe innovation comes from competition. We can't all we can't all sit under same trees shade.

Interviewer 14:19
Yeah, I get you. The reason I'm asking that [name] is that if you look at stuff like platform businesses, like [business] for arguments sake like that [company] was launched recently to open that for for for the entire market just put you in a better position because, then people from all sorts of places can access and it's not unique to that to that specific market segment or that group of people that you actually hold or own or whatever. But I agree with you. I think that in certain instances, we need to actually keep it alone because then we will push the innovation and we will try and beat our competition for lack of a better. The how do you what do you think is the biggest reason a Telco? Whether it's [company], [company], [company] whatever it is, what is the biggest reason that a Telco would like to address the

digital divide? And then obviously, how do they manage that balance between profit and purpose?

Participant 8 15:23

I think that's a very valid question. How does a Telco try to bridge the digital divide? deftly? Definitely. Uhm and I'm going to, I'm going to look at specifically [company], I think we believe in sustainability. And we do believe in our CSI project as a corporate social investment, because in the end, those are our consumers those are our end users. So, it's almost giving back to them and uhm a lot of time, people often go beyond beyond beyond just the product and the service that we offer. I think one of [company] `s biggest mistakes was, and and I think they are, they actually do admit it is the [name] soccer team sponsorship that they never renewed. It was purposefully not renewed but if you looked at the amount of followers, I think it actually did a lot of damage to our brand, not only in our region, but but nationally. And, and I think that that's where companies need to sometimes just look at and stop and move away from the bottom line and look away from how much money and what how many, how much profit, but also look at what am I giving back to the communities? And what is important to our community? Is it a soccer sponsorship? Is it bringing technology to schools, is it giving fire trucks in an, in fire and drought stricken areas to, to our farming communities, because I mean, if you if you look at the world we are living in and the current war with Ukraine and Russia, it's got a huge rippling effect, it's in the world. So, if you can plant a, plant the tree today, and in 20 years' time the children will have shade so so I believe that Telcos need to definitely bring in the social corporate investment and and just put the profits aside because that will come that will come with it. I think companies are or Telcos are definitely looking at reaching rural areas at reaching areas where there has been no network coverage, ensuring that we are dropping our prices on handsets and devices so that it becomes more affordable. Our data prices that are dropping the type of town offers is just for your town office, the type of offers that are online available. And those are all the things that I believe are are bridging the digital gap that there is in society, so that everybody has access and has a means of access. Because if I actually think years back, we, for the first time when we did our five-rand pre-paid voucher it was huge because suddenly the person who didn't have a

10 rand or 20 rand to buy a 10 voucher now had access to buy a five rand or R2,50 on voucher when we still sold vouchers. Uhm that allowed everybody to have access to Telcos and digitalization.

Interviewer 19:27
Okay, that's fantastic. Yeah, that's, that's, yeah, she because you were the the most of us that weren't even exposed to that. You know, it was just we didn't even realize the ...

Participant 8 19:41
Now it's using a USSD string. You have to go in to a Pep store and buy these vouchers. And, and in the end, it was also job creation because the guys would buy these rolls of vouchers, and they'd go on to the street and they'd sell a R2,50 voucher for R2,70 or R2,80 and, and, and in on their own entrepreneurial way they were creating a work for themselves. And I think we as Telkom as Telcos learned from them. And that's where informal traders and a big portion of our business model grew from from exposing people and seeing what what came out in the market.

Interviewer 20:25
Sure. That's fantastic. [Name], if we were to give you the the task to say [name] you are going to, to address the digital divide in South Africa, and specifically in the Telco section of how they would be able to bridge the digital divide, what would be the first thing that you would tackle to bridge that divide?

Participant 8 20:53
Sjoe [name], I am on the spot now. You see, you can't just tell a woman you've got a major budget now her mind goes to shopping and shoes. Uhm, I guess the first thing is [name] is we need to go inside, what is our main role as a Telco and that is to ensure that there's network coverage. So, the first thing I guess, if I were to be allocated a bus budget was to ensure that we have an sufficient need to have coverage across South Africa. I've got a beautiful story to tell you about a small place [town] in the [province], we, up until two months ago, there was no network coverage. There there was a little young guy who was walking with his GuGu`s

[*grandother]* cell phone and this is a true story [name]. And this is why I think network building the network, because then, then a person, everything can come from there. Uhm he was walking in the fields herding cattle, and he got a beep on his phone and he went to the farmer and he and a beep came, we've got digital library hubs that we've put up there because there is no network. And then the farmer was very creative and he turned to the stand what, and I walk the land, so you had to pay 50 bucks to go and stand on the stone to be able to receive and make phone calls. I swear this is 2022 that I'm telling you now. Uhm so if there was an emergency, you had to go to a school library. And, and there was wifi where you could phone you could not phone from your own home and this is in today's times. And we actually within five days deployed a network and the guy was very entrepreneurial I think it was 16km from the nearest village so the taxi driver also still made money said to make a phone call and would cost you nothing under 100 bucks. Just to say hello to somebody and find out how they were and within five days [company] deployed a network and can you imagine the faces of those people who could actually sit in their houses and make a phone call? And that is the digital divide because for me and for you sitting in metros and in towns, we get frustrated when we get a buffering sign. Yeah, and that is bridging to me the digital divide to be allowing that person to make a phone call. And now suddenly align them to have access to E-Schools to have access to [program] pay to have access to digital marketing and online sales. You opening a world to them.

Interviewer 23:53
And effectively it's only gonna cost you five grand and not 50. So, you're gonna have a lot of money to spend on other things, and it's ...

Participant 8 23:59
And it is going to be spent on our network cause now they can actually speak, yes,

Interviewer 24:03
Sjoe that is hectic.

Participant 8 24:07

I guess that's what I would do if I were given the budget is first ensure that, that we ensure that there is proper coverage, because then we've got so many amazing apps and products, and that will that will drive revenue and that will connect people.

Interviewer 24:26
I agree with you, [nam], this is the last couple of questions I've got for you now. In your opinion do you think a digital active society in South Africa is a possibility? And if so, please explain. You just mentioned those people and [town] that literally got there ...

Participant 8 24:47
Ueah, no I think you're I think that example you would be a prime example of that. Are we there? I don't think we are there yet. I think we fall from it [name] because we have so much vastness and we have so much rural communities. And we still have so much educational divide and issues that we are not all on a same level. Financially, unemployment in South Africa is just so high that if we have to be honest, money needs to go into basic needs, to food to water to shelter, and digital is definitely not a priority to I would guess it's a it's a guesstimate more than 50% of our communities. That's not the first priority. Digitalization, I believe that is long term possibility and for it to happen, but I don't think we are near European countries near how they are working if I just copy myself sitting in the center of the universe in [city]. I mean, actually think we don't have Uber in [city]. We don't have all the digital apps, a bolt a digital upset the people in a [city] or go into [city] or in a [city].

Interviewer 26:32
Yeah.

Participant 8 26:33
So, they are already further advanced than what we are here. Uhm South Africa has a lot of farming industry they we have we've really advanced technologically if you were to go to Nampo. And you were to see we competing with European markets, on digitalization and how people are farming. But I think for your mass market, your

lower LSM, we've still got quite a bit of work to do in South Africa. We're not quite there yet.

Interviewer 27:08
Do you think that a digital society will have a positive impact on the economy?

Participant 8 27:15
It definitely will, I think, and I use myself as a prime example. Look, for me to shop online, it's as easy as pressing a button. And then I worry later about do I really need it? If and where if I go and I go into a shopping mall, I do an ALA [word unclear] and I think twice before I put something in. And let me just use whatever example for clouds shopping for gadgets shopping, it's so much easier just to quickly pop it in and it gets delivered and the excitement of the parcel arriving at your house. So I think a person does spend more because it's really easier to swipe the credit card or to tap and go. And then to work it walk in and actually look at a menu and decide what you're going to eat. I think it's just easier to order on online and have it delivered cost wise. In South Africa, once again, I don't know if we are there or that some of our products are really doing well in our markets. And I know the area that you come from as well you also have chesenamas [spelling unclear] and car washes. And I'm moving back to the informal markets and the mass market because that is our market we we are the minority living in the upper metros and and markets and they are moving into the quicko [spelling unclear] and using verify and they eager to see it I actually saw a few of our devices in the market. And what they like about it is so suddenly they feel empowered, that it's working and and the money's going into a bank account and it's, it's it's cheaper for them because they don't have the risk. So, I do believe that we are companies that can make it work. If you look at IBM beef and their route to market with with Coca Cola and the selling and buying and cash in and cash out. I think those type of things there's definitely there is definitely room for it to to generate additional revenue for us in the market.

Interviewer 29:53
Fantastic. [name], I thank you for your time. And I'm going to stop the recording then we know …

Appendix L: Ethical Clearance

Graduate School of Business Administration
University of the Witwatersrand, Johannesburg

Wits Business School Ethics Committee
Constituted under the University Human Research Ethics Committee (Non-Medical)

Ethics Clearance Certificate

Ethics protocol number: WBS/DB2368816/459
This certificate is only valid with a legitimate ethics protocol number and signed by the Researcher (below,

This certificate is only valid if accompanied by formal permission from the relevant stakeholder(s).

Project title	Telcos approaches to addressing the digital divide
Investigator / Researcher	Mr Werner Swanepoel
Nature of Project	MM (Digital Business)
Decision of the Committee	Approved, provided stakeholders and participants are guaranteed confidentialty.
Issue Date of Certificate	2021-11-11
Expiry date	Date of submission of the project report
Chairperson	Prof Anthony Stacey ☎ +27 11 717 3587 +27 82 880 4531 anthony.stacey@wits.ac.za

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Declaration by Researcher

One copy must be signed by the Researcher and returned to the Chairperson of the Wits Business School Ethics Committee.

I fully understand the conditions under which I am authorized to carry out the abovementioned research and I guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I undertake to resubmit the protocol to the Committee.

Signature

11 Nov 2021
Date:

Appendix K: Consistency Table: Research Questions, Propositions, Data Collection and Data Analysis

RQ	State Research Question or Objective	Prop/hyp	State Proposition or Hypothesis	Data collection detail	Data analysis method
1	What is the role of Telcos in bridging the digital divide?	1			
1.1	What is the digital divide International & National?	1.1	Similarities	Interview guide questions 1, 2, 3, 4, 5	Thematic analysis
1.2	The role of business in society International and National?	1.2	Differences	Interview guide questions 3, 4, 5, 6, 7	Thematic analysis
1.3	The role of Telcos in society International and National?	1.3	State proposition 2	Questionnaire Likert statement 1-15	Distribution fitting algorithm or correspondence analysis

RQ	State Research Question or Objective	Prop/hyp	State Proposition or Hypothesis	Data collection detail	Data analysis method
1.4	The role of Telcos in bridging the digital divide international and National	1.4	State proposition 3	Semi structured and recorded interviews	Regression analysis
4	What are the most significant challenges business has faced with bridging the digital divide?	4	State hypothesis 1 (null and alternate)	Identify database	Structural equation modelling (SEM)