# A FRAMEWORK FOR BUILDING AN INFORMATION SOCIETY FOR SELECTED COUNTRIES IN THE SOUTHERN AFRICAN DEVELOPMENT COMMUNITY

by

MARTIN COLLIN ABNER MMAPETEKE SEHLAPELO

submitted in accordance with the requirements
for the degree of

DOCTOR OF LITERATURE AND PHILOSOPHY

in the subject

INFORMATION SCIENCE

at the

UNIVERSITY OF SOUTH AFRICA

SUPERVISOR: PROF M K MAJANJA

CO-SUPERVISOR: PROF P NGULUBE

SEPTEMBER 2018

## SUMMARY

In line with the World Summit on the Information Society and with the expectation that this would enable them to advance their development and improve the lives of the population, almost all the Southern African Development Community (SADC) countries had developed national information and communications technologies (ICT) policies. The purpose of this doctoral research was to investigate the theoretical underpinning(s) of the national ICT policies of the SADC countries in order to develop a theoretical framework for building an information society for development.

The research employed a grounded theory design, utilising the NVivo11 software as a tool to support the analysis of the national ICT policies for the selected 12 of the 15 SADC countries, as well as the interviews of five knowledgeable informants. Content analysis and open-ended interviews were the research methods applied sequentially to develop the Capacitating Theory for Building the Information Society for Development (CaTBIS-4D) for SADC countries, which is the core of the theoretical framework that this thesis proposes.

The research found that building an information society continues to remain relevant for SADC countries, and its achievement is dependent on capacitating human, infrastructure and financial factors. Significantly, the research concluded that the perceived failure of the information society project within the SADC countries is due to the arcaneness or obscurity of the recognition that development and the information society mutually reinforce upon each other such that the improvement of one contributes to the advancement in the other. Based on the research findings and conclusions, this research proposes a framework that contends that to build an information society for development, it is necessary/ crucial to capacitate the human, infrastructure and financial factors by focusing on identified economic sectors and social categories within an effective governing and implementation monitoring environment. The research recommends that as the national ICT policies within SADC countries are updated and implemented, the framework proposed in this research be utilised as a basis. Furthermore, the research recommends that the

broadest range of local role-players should participate in the information society development project to ensure its endurance and relevance.

**Keywords**: Capacitating theory; Information society; National ICT policies; ICT Policy development; SADC; Grounded theory; Content analysis.

## ACKNOWLEDGEMENTS

The extended time it took for this study to be completed, has made me practically experience the maxim that "*Motho ke motho ka batho!*" This maxim emphasises the reality that, I am, because of other people. First things first. My gratitude and indebtedness to Professor Mabel Majanja and Professor Patrick Ngulube are unconstrained. Their approach to supervising me was akin to the shepherd who ties a goat (metaphorically myself) on a very long leash, yet never allowing it to stray. Furthermore, had it not been for my supervisors, I would not have had the opportunity to solicit the funding I required for this project.

Without the people who read and re-read my work and/or provided me a sounding board, this work would not have been completed successfully. There are so many people who helped me in this endearvour that there is a high risk that I will miss to mention some of them. I must, however, recognize the following by name: Comrade Mike Selaelo Makhura, Comrade Mike Sebati, Ms Koketso Mokwatlo, Ms Karin McGuirk, Dr Kofi Koranteng Adu, Dr Isaiah Munyoro, Dr Lufuno Raliphada, Dr Ngoako Marutha, Dr Cyprian Ugwu, Dr Edwin Ayenor, Professor Mpho Ngoepe and Professor Martin Terre Blanche. I must also give thanks to the academics who guided and mentored me, as well as provided me with extensive support through the workshops, conferences and other engagements arranged by the National Institute for Humanities and Social Sciences (NIHSS).

Accessing the informants that fit the study was quite a challenge, I must acknowledge all the people who made it their responsibility to seek them out or assisted in getting them to agree to talk to me. This work would have been so feeble, had the respondents not freely shared their time and insights. Unfortunately, I am not able to name them, but I must thank them.

During this arduous journey I lost my infant son Hlolo, my father, as well as other close relations. The support I received for these and other non-academic challenges, made it possible for me to trudge through. Comrade Phorwane Modikwa and Brigadier General Oscar Skhosana, were consistent pillars of support, helping me deal with my domestic challenges. I appreciate the efforts of my former superiors

at Transnet, particularly Adv. Phyllis Difeto and Ms Makano Mosidi, who never shirked their responsibility to support the growth of their colleagues and allowed me time off to attend to my studies.

I acknowledge the Head of the Department of Information Science at Unisa Professor Luyanda Dube, as well my long-standing comrade and colleague Colonel (Dr) Brian Molefe who helped when I needed space to focus on this project, being away from some of the mundane distractions.

I am grateful to those who remained faithful to our friendship or kinship despite my perpetual and consistent lack of being available to nurture our relationships. I shall not forget my wife Phuti and my sister Desiree Ibiuanga-Bassoumba who assisted me in so many ways.

To everyone who ever crossed my path, know that this would not have happened without you. Everything that happens, influences whatever happens thereafter. *Ke a leboga*!

**********

The financial assistance of the National Institute for the Humanities and Social Sciences (NIHSS), in collaboration with the South African Humanities Deans Association (SAHUDA) towards this research is hereby acknowledged. Opinions expressed, and conclusions arrived at are those of the author and are not necessarily to be attributed to the NIHSS and SAHUDA.

## DEDICATION

I dedicate this work to my late parents, Mr Mmatshidi Frederick and Mrs Nnyane Elizabeth Sehlapelo who have always encouraged and believed in me; my wife, Phuti, who has struggled with me through this journey; and my children, Sechaba, Tshegofatso, Tokologo, and Koena who, I hope, may be inspired to do whatever it takes to build a better future for themselves, the country, and the continent. In honour of my ancestors, the following is in order:

*Ke batho ba-Mmalleka 'a Boshega. Ke batho ba batšwago kgotsutso le kgotsutswana. Ke bo Sehlapelwana sa Boshega sa mogopo wa go dula tswatla. Ke bo-Makgohlo-manyela phagong, mohla'a pula ba nyela kae?*

*Ke wa Makoma, ke ra ngwana Mogashoa'a Bjatladi bja Mamorela Seolwana sa Mmataladi sekgopa banna matolo. Ke Bahwiti ba marulela segola sa ntlo ka bjang, wa se rulele o tla naiwa. Ke setlogolo sa Pitsi Lesibe, motho wa ngwatši sebala mabitla mola thaka di reta merojana. Ke Lesibe selwa le phuti lekgwareng, phuti ya kata Lesibe go bona a senenyana.*

*Agee moshega!!! Nkabe re bona sehlare ra khuta, ra bona lewa ra tsena. Ke motho wa bo Senkhu Senkgwakgwarara Mokgopha, ba rego monyane ga a ile go ingwapela mogolong.*

*Ke modu wa sehlako morwa Lepelle. Sehlako ke rwala sa nare, sa kgomo se mpakela kudumela ya bo leakane. Setlogolokhukhu sa bo ngwana Tjale'a Lekubu wa matebele makonkwane a hloka kgomo a ja motho, sa lekubu le legolo la nkwana molomo ba re, naa mma o llela nko ana o llela molomo? Sa komedi 'a madula tšating magoši mangwe a dula moriting.*

*Ke Mmatšhipi wa bo Mmapeteke le Senkhu 'a Phaahla, morwa Chakane 'a Nape, Mmapeteke se peteketša dinama a etšwa Kgotsutso le kgotutswana ga mmamogolo 'a batho. Ke wa bo lekgarebe le lebotse le ge a furaletše, ba re o a ketša ga o botse le mošate o ka se fihle, a re, mošate ke tla fihla. Ba re, o tla tshela kae e tletše e rekhisela ka mariba noka-kgolo ya Bosetse. A re, ga se merikhiselo ya noka-kgolo ya Bosetse Mphogodiba, ke merikhiselo ya kgarebe le lebotse le lebile mošate!* ***Bashega Wee!!!! Dikgomo Wee!!!!!***

## DECLARATION

I declare that the research study on "**A Framework for Building an Information Society for Selected Countries in the Southern African Development Community**" is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

I further declare that I have not previously submitted this work, or part of it, for examination at Unisa for another qualification or at any other higher education institution.

**Name**: Martin Collin Abner Mmapeteke Sehlapelo **Signed**: _____

**Date:** _____ 2018

## TABLE OF CONTENTS

## LIST OF ACRONYMS

| | |
|---|---|
| 4IR | Fourth Industrial Revolution |
| AISI | African Information Society Initiative |
| AU | African Union |
| CaTBIS-4D | Capacitating Theory for Building the Information Society for Development |
| CSF | Critical Success Factor |
| GDP | Gross Domestic Product |
| GTM | Grounded Theory Method |
| HDI | Human Development Index |
| ICT | Information, Communications Technologies |
| IoT | Internet of Things |
| IT | Information Technology |
| ITU | International Telecommunications Union |
| MDGs | Millennium Development Goals |
| NEPAD | New Partnership for Africa's Development |
| OECD | Organisation of Economic Co-operation and Development |
| RISDP | Regional Indicative Strategic Development Plan |
| SADC | Southern African Development Cooperation Community |
| SDGs | Sustainable Development Goals |
| UNECA | United Nations Economic Commission for Africa |
| UNESCO | United Nations Educational, Scientific and Cultural Organization |
| Unisa | University of South Africa |
| WEF | World Economic Forum |
| WSIS | World Summit on the Information Society |

## LIST OF FIGURES

## LIST OF TABLES

## LIST OF APPENDICES

# CHAPTER ONE: INTRODUCTION TO THE STUDY

## 1.1 Background

According to the Geneva Declaration of Principles, the information society is a society (United Nations World Summit on the Information Society 2005a):

> Where everyone can create, access, utilize and share information and knowledge, enabling individuals, communities and peoples to achieve their full potential in promoting their sustainable development and improving their quality of life, premised on the purposes and principles of the Charter of the United Nations and respecting fully and upholding the Universal Declaration of Human Rights.

The definition above was accepted by the participants in the World Summit on Information Society (WSIS) held in Geneva from 10 to 12 December 2003 and in Tunis from 16 to 18 November 2005 (United Nations World Summit on the Information Society 2005a). One of the outcomes of the WSIS has been the concerted effort by countries to develop information society strategies that will contribute to building information societies within their jurisdiction by the year 2010. As stated below, this was achieved in the end. A resolution outlined in the Tunis Agenda for the Information Society specifically encouraged governments to develop these strategies as part of their national development plans and poverty reduction strategies (United Nations World Summit on the Information Society 2005a). This situation indicates that countries are making efforts to build information societies within their jurisdiction.

A report by the International Telecommunications Union (ITU) (2010a:4) has indicated that as at April 2010, 84.3% of all economies had national e-strategies in place and a further 7.3% were in process. During 2013, when this study commenced, this researcher searched various references and found that except for Angola and the Democratic Republic of the Congo, all the SADC countries have finalised or are finalising their national ICT strategies. This status indicates the high level of interest as well as progress by countries to build information societies within their jurisdiction. Since this target was supposed to have been achieved by 2005,

later reports did not indicate the actual level of performance against this target. However, some of the reports did indicate the qualitative improvements related to this aspect indicating a continued interest on the development and implementation of the information society strategies (International Telecommunication Union 2015:12–17, 2018:1). The ITU utilises the term “e-strategy” and “national ICT strategy” for “information society strategies” in the report cited above to determine the achievement of the resolutions of the WSIS (International Telecommunication Union 2010a). The fact that different people use different terminology to refer to the information society may obscure the growing interest in the subject as demonstrated later in Chapter Two. Furthermore, this lack of commonality in the understanding has led to the challenge of determining whether a society has reached a stage where they can be called an information society or not (Gault & McDaniel 2002; Nath 2017:21–27). Some of the key measures of the information society include the number of households with internet access, telephone penetration, broadband coverage, the number of people involved in information/ knowledge work, as well as various composite e-readiness measures (Hilbert, Lopez & Vasquez 2010:158; OECD 2009:11–16). The measures of the information society do indicate that, relative to the developed countries, developing and least developed countries lag behind with respect to achieving the information society (International Telecommunication Union 2016b).

The Southern African Development Community (SADC) has declared that it wants to build an information society that truly contributes towards development and a better life for the inhabitants of the region (SADC 2001). The SADC Declaration (SADC 2001) on Information and Communications Technology (ICT), has identified having a policy, legislation and a well-defined strategy or national ICT policy as essential for successfully building an information society. To develop a national ICT policy that will contribute to the building of an information society, a theory of how an information society is built is required. This theory could be explicit or implicit.

This study started out from the perspective that a theory for building an information society for developing countries – such as those within the SADC – has not been postulated explicitly. In the opinion of this researcher, an explicitly stated theory for building an information society within the SADC will ensure that the development of

national ICT policies would be more coherent and, therefore, likely to succeed. Furthermore, the performance of national ICT policies could be investigated better in line with such a theory. Where a theory is not explicitly stated, it could be extracted from the policies in the policy area. Dery (1998:166) equates policy to a hypothesis in that it assumes that certain actions are likely to lead to certain ends. From this perspective, this research intends to develop a theory, or rather a hypothesis, from a study of the national ICT policies of the SADC countries.

Some authors (Checchi, Po-An Hsieh & Straub 2003:45; Checchi, Loch, Straub, Sevcik & Meso 2012:57–58; Cohen, Salomon & Nijkamp 2002:43) have argued that the development of effective national ICT policies has been limited by a lack of theoretical and conceptual work. Furthermore, for less developed countries, the studies that have been done have contributed little to theory. These studies, which have bemoaned the paucity of theory, have chosen to address the theoretical gap regarding stakeholder matters that relate to the policy development and implementation processes (Checchi et al. 2012:58; Makoza 2017:6). As further discussed in the rest of this chapter, the theoretical gap this study focuses on relates to what the key factors are that will lead to the successful building of an information society and thus a correct framing and implementation of national ICT policies for SADC countries.

This researcher has noted that most of the theoretical debates around the information society revolve around the nature of the information society itself, rather than how to achieve it. This is despite the many studies that emphasised that society is becoming an information society that is fundamentally different from the industrial age (Karvonen 2001) and that this information society is emerging as a major social scientific research programme (Kasvio 2001).

In that vein, a number of authors have written about the concept of the information society, including Frank Webster (2006), Manuel Castells (2000a, 2010, 2011), Erkki Karvonen (2001), Christopher May (2002), Christian Fuchs (2008) and Daniel Bell (as cited in Crawford 1983). Although these and other authors do not necessarily agree on key aspects of the information society, they have shaped the discipline. Therefore, it is no surprise that focus is placed on this newly emerging

scientific discipline. It is thus important that researchers in developing countries understand this new research area within the context of their societies, which are also part of this social transformation towards an information society.

Even though almost all the SADC countries have developed information society strategies, there does not seem to be a formalised theoretical foundation upon which these strategies have been built (Checchi et al. 2003:45, 2012:57–58; Cohen et al. 2002:43). This will be expanded on later in Section 1.4. The development of this theoretical foundation will enable the development of a more successful model for developing the information society.

As mentioned above, many countries have developed strategies and programmes to build an information society. It is envisaged that the nature of the strategies and programmes aimed at building an information society would not be the same for countries; more particularly, developing countries such as those that form part of the SADC would have different and possibly unique strategies and policies. The interest that this researcher has in the SADC is based on the fact that most, if not all, of these countries are classified as developing. On that basis, it is presumed that these countries have more to benefit from the implementation of the information society. There seem to be suggestions that there is a correlation between the success of an information society and socio-economic development (Sehlapelo 2010).

### 1.2 Some of the key concepts

The information society is the key and primary concept dealt with in this thesis. This concept was defined in Section 1.1; however, it will continue to be clarified more going forward in this study. The information society is very closely related to the network society, IT and ICTs. Another related concept, which was also touched upon above, is the national ICT policy.

Most countries that have adopted national ICT policies perceive these to be playing a key role in building information societies for development in their countries. In reporting about the launch of the national ICT policy in Zambia, the Balancing Act website indicates that ICT policy is seen as an important step for the country to be transformed into an information- and knowledge-based society, in other words, an

information society (Balancing Act - Africa 2007). Braman (1989:76) tells us that the first attempt to build a comprehensive approach to information and communication policy that involves many domains by government was made by the Brazilian government, which took power after the 1964 coup. The Tunis Agenda (United Nations World Summit on the Information Society 2005a) pursues the very same approach by requiring countries to develop information society strategies. Many countries consider their national ICT policies or plans as such a strategy. This researcher is of the view that although the national ICT policies or strategy might be the core of such an information society strategy, it may be necessary to consider the array of documents that may be adopted in a country to be more relevant. These may include some of the ICT legislation or some of the broader policies or strategies.

Development can be discussed and explained from many different perspectives. At this stage, this researcher would like to highlight this as a key concept that this study relates to. Pereira Neto (2006:365) provides a simple and elegant exposition of the goal of development as being the "raising standards of living" of people. Further on in this study, a discussion on the nature of and relationship between development and the information society will be entertained.

### 1.3 Context setting

There is a reasonable amount of effort that has commenced as early as 1996 directed at Africa by African countries themselves to build the information society. These efforts can be seen in programmes like those of the African Information Society Initiative (AISI) of the United Nations Economic Commission for Africa (UNECA), the African Union through the New Partnership for Africa's Development (NEPAD), Regional Economic Communities such as the SADC as well as the individual countries themselves (African Union & Economic Commission for Africa 2005).

The SADC is a regional body consisting of 15-member states that are listed in Table 1-1. The table also provides information on the main language or the language of business, population size and gross domestic product (GDP) of the country. The SADC is the successor of the Southern African Development Coordinating Conference, which succeeded the Frontline States, an organisation consisting of

the then majority-ruled Southern African countries whose main objective was to campaign for the liberation of all countries in Southern Africa (Southern African Development Community 2012).

Table 1-1: Key Information of the SADC member states (As at 2014)

| Country | Language | Population | GDP |
|---|---|---|---|
| Angola | Portuguese | 20 820 525 | $114 147 030 253 |
| Botswana | English | 2 003 910 | $14 504 339 386 |
| Democratic Republic of Congo (DRC) | French | 65 705 093 | $17 203 980 743 |
| Lesotho | English | 2 051 545 | $2 447 573 299 |
| Madagascar | French | 22 293 914 | $9 975 124 872 |
| Malawi | English | 15 906 483 | $4 263 794 984 |
| Mauritius | French | 1 291 456 | $10 486 037 634 |
| Mozambique | Portuguese | 25 203 395 | $14 243 717 484 |
| Namibia | English | 2 259 393 | $13 072 278 943 |
| Seychelles | French | 88 303 | $1 128 753 721 |
| South Africa | English | 52 274 945 | $384 312 674 446 |
| Swaziland | English | 1 230 985 | $3 744 472 287 |
| Tanzania | English | 47 783 107 | $28 242 425 168 |
| Zambia | English | 14 075 099 | $20 590 283 022 |
| Zimbabwe | English | 13 724 317 | $9 802 360 203 |

Sources: (Southern African Development Community 2012; The World Bank 2014)

As an economic community, the SADC strives to build socio-economic growth and development through improved cooperation and integration. The SADC is one of the eight regional economic community bodies recognised by the African Union. These bodies and their constituent countries are outlined in Table 1-2.

Table 1-2: Regional economic body recognised by the African Union

| Regional economic community body | Countries |
|---|---|
| Arab Maghreb Union (UMA) | Algeria, Libya, Mauritania, Morocco, Tunisia |
| Community of Sahel-Saharan States (CEN–SAD) | Benin, Burkina Faso, Central African Republic, Chad, Côte d'Ivoire, Djibouti, Egypt, Eritrea, Gambia, Ghana, Guinea Bissau, Kenya, Liberia, Libya, Mali, Morocco, Niger, Nigeria, Senegal, Sierra Leone, Somalia, Sudan, Togo, Tunisia |

| Regional economic community body | Countries |
|---|---|
| Common Market for Eastern and Southern Africa (COMESA) | Burundi, Comoros, DRC, Djibouti, Egypt, Eritrea, Ethiopia, Kenya, Libya, Madagascar, Malawi, Mauritius, Rwanda, Seychelles, South Sudan, Sudan, Swaziland, Uganda, Zambia, Zimbabwe |
| East African Community (EAC) | Burundi, Kenya, Rwanda, Uganda, UR of Tanzania |
| Economic Community of Central African States (ECCAS) | Angola, Burundi, Cameroon, Central African Republic, Chad, Congo, DRC, Equatorial Guinea, Gabon, São Tomé and Príncipe |
| Economic Community of West African States (ECOWAS) | Benin, Burkina Faso, Cape Verde, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo |
| Intergovernmental Authority on Development (IGAD) | Djibouti, Eritrea, Ethiopia, Kenya, Somalia, South Sudan, Sudan, Uganda |
| Southern African Development Community (SADC) | Angola, Botswana, DRC, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, UR of Tanzania, Zambia, Zimbabwe |

Source: (African Union 2014:119–129)

While some countries belong to more than one body, Botswana, Lesotho, Namibia and South Africa belong only to the SADC as outlined in Table 1-2 (African Union 2014:119–129). That many of the SADC countries belong to more than one regional body may suggest that the countries may not have a common view on matters. On the other hand, a counter-argument is that the SADC is effectively governed based on its Treaty and Declaration; this is supported by various protocols that govern with various areas of cooperation. The SADC Protocol on Transport, Communications and Meteorology which was signed on 24 August 1996 is supposed to form the basis for cooperation for SADC countries in building the information society. However, this protocol only addresses the aspect of telecommunications and universal service. On the other hand, the Protocol on Culture, Information and Sport addresses some of the informational aspects of the information society (Southern African Development Community 1996, 2000).

In addition to the protocols, the SADC has adopted the Regional Indicative Strategic Development Plan (RISDP) in 2003 as a roadmap that would guide the SADC in achieving its long-term goals (Southern African Development Community 2011). The RISDP has clearly emphasised the importance of ICT within the context of the information society and the role that they play in the achievement of developmental goals. The document states that

> SADC Member States have agreed on the need to develop an all-inclusive, balanced, and socially equitable information and knowledge-based society that is founded on co-ordinated national strategies to effectively integrate ICT into regional development policies (Southern African Development Community 2001).

As part of implementing the RISDP, the SADC has adopted, among other things, an e-SADC Strategy Framework. In their report on the progress with the implementation of the RISDP, the secretariat indicated that, despite its importance, the ICT programme is under-staffed and underfunded (Southern African Development Community 2011). Despite the common vision with regard to building an information society as part of the regional integration mentioned above, the countries still have big differences when it comes to some key indicators. It is clear in Figure 1-1, which describes the number of Internet users per 100 people as well as the GDP per Capita for the SADC member countries for 2012 (these are the latest figures available) that much progress is still required.

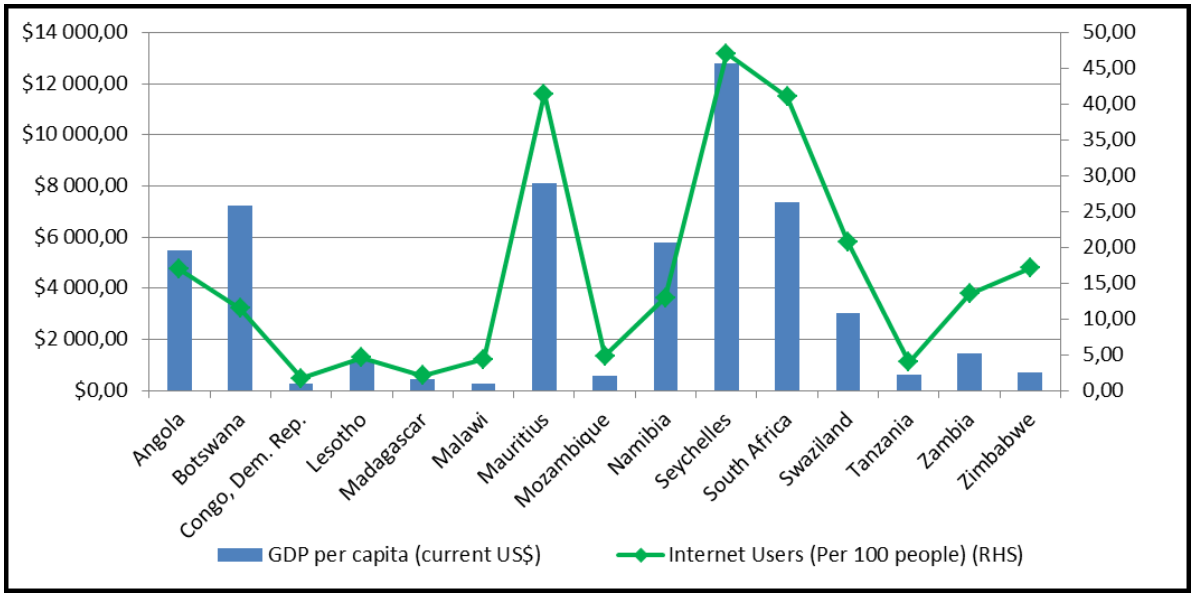



Figure 1-1: GDP per capita and internet users (per 100 people) (2012 figures)
Source: (The World Bank 2014)

In addition to the difference in the measures of GDP and the number of internet users in the SADC countries shown in Figure 1-1, there is broadly an alignment between GPD and internet usage. A more recent ITU report with an extract presented in Figure 1-2 indicates that the situation has not improved.

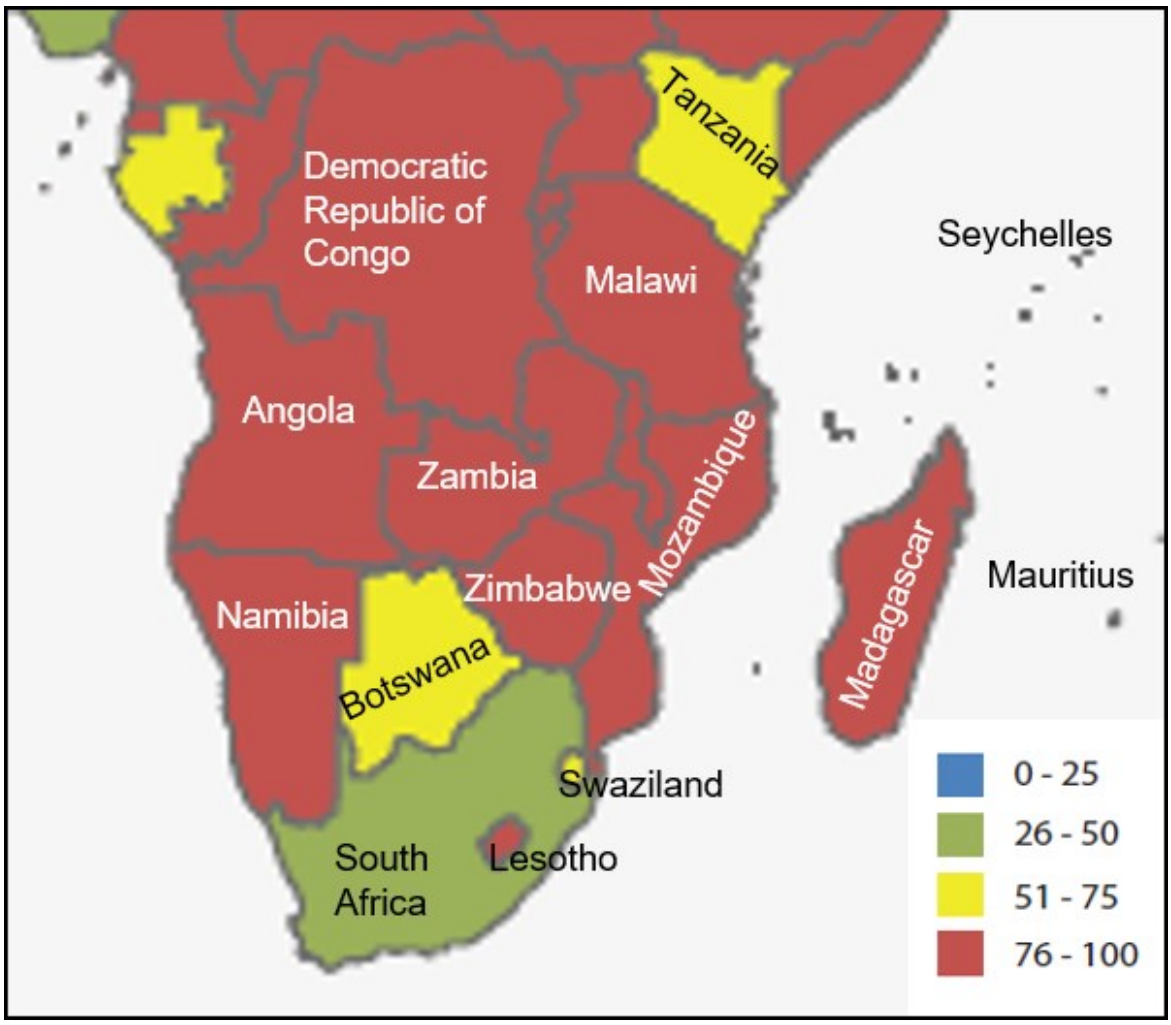



Figure 1-2: Percentage of SADC population not using the internet
Source: (International Telecommunication Union 2016a)

Figure 1-2 shows that, 76% or more of the population does not utilise the internet in 12 of the 15 SADC countries, based on the information available in 2016. In the three countries that seem to have a greater percentage of the population using the internet, two countries have a population of between 51% and 75% not using the internet, and only in one country there are between 26% and 50% of the population that does not use the internet. (International Telecommunication Union 2016a.) The situation depicted in Figure 1-2 suggests that there is still much more effort required for SADC countries to increase its use of the internet and, consequently, move closer to becoming information societies.

Southern African countries have committed to work towards building the information society within their jurisdiction, they have agreed that it is important that they

cooperate in this endeavour; however, there seems to be some challenges that hamper them in building the information society within the respective countries (Makoza & Chigona 2013; SADC 2001). Despite the geographic proximity of the SADC member states, as well as number of characteristics and several pertinent economic indicators that may be similar, each country has a different government and governance system, particularly in relation to how the information society is governed. This may also be inferred from the full names of the countries: while the SADC mainly consists of countries that are republics, Lesotho and Swaziland are kingdoms. In these two countries, the heads of state are not elected and thus may not be as sensitive to public opinion as those who are elected. It is clear from this observation that the level of legitimacy of the development strategies is not related to the political system in place in the country.

Ministries are typically responsible for information society programmes and activities within the different SADC countries as outlined in Table 1-3. Significantly, of the 15 member-states of the SADC, Angola, the Democratic Republic of the Congo, Madagascar and Mozambique typically do not have their documents in English, and therefore the information reviewed in this study excludes these four. These ministries are also responsible for the political oversight of the authorities that are responsible for regulating ICT activities in these countries.

Table 1-3: ICT regulators for English-speaking SADC countries

| Country | Regulator | Description | Ministry |
|---|---|---|---|
| Botswana | Botswana Communications Regulatory Authority (BOCRA) | The BOCRA exists to promote and facilitate a competitive information and communication technologies environment to advance the knowledge society and economic diversification of Botswana through innovative and fair regulation. | Ministry of Transport and Communications |

| Country | Regulator | Description | Ministry |
|---|---|---|---|
| Lesotho | Lesotho Communications Authority (LCA) | Lesotho Communications Authority (LCA), formerly Lesotho Telecommunications Authority (LTA), is a statutory body established in June 2000. | Ministry of Communications, Science and Technology |
| Malawi | Malawi Communications Regulatory Authority (MACRA) | The Malawi Communications Regulatory Authority (MACRA) is a statutory body established under the Communications Act, 1998, to regulate the provision of services in the communications sector in Malawi, comprising telecommunications, posts and broadcasting. | Ministry of Information, Tourism and Culture |
| Mauritius | Information and Communications Technologies Authority of Mauritius (ICTA) | The ICT Authority is the national regulator for the ICT sector and postal services in Mauritius. | Ministry of Technology, Communication and Innovation |
| Namibia | Communications Regulatory Authority of Namibia (CRAN) | CRAN is the Communications Regulatory Authority of Namibia. It regulates telecommunication services and networks, broadcasting services, postal services and the use and allocation of radio spectrum. | Ministry of Information and Communication Technology |

| Country | Regulator | Description | Ministry |
|---|---|---|---|
| Seychelles | Policy and Regulatory Affairs Section, Department of Information Communications Technology | The communications division consists of two main sections and has as its mission the establishment of the proper regulatory framework (regime) that promotes free and fair competition, attracts investment, protects consumer interests and makes efficient use of resources. This division also ensures accessibility to efficient, affordable, high-quality and technologically advanced communications services that meet the present and future sustainable socio-economic development through the aspiration on the Government of Seychelles. | Office of the President (Department of Information Communications and Technology) |
| South Africa | Independent Communications Authority of South Africa (ICASA) | The Independent Communications Authority of South Africa (ICASA) is the regulator for the South African communications, broadcasting and postal services sector. ICASA was established by an Act of statute, the Independent Communications Authority of South Africa Act of 2000, as amended. | Ministry of Telecommunications and postal services (Formerly Communications) |

| Country | Regulator | Description | Ministry |
|---|---|---|---|
| Swaziland | Swaziland Communications Commission (SCCOM) | The Swaziland Communications Commission is established by the Swaziland Communications Commission Act, No. 10 of 2013. It commenced business on 31 July 2013. | Ministry of Information, Communications and Technology |
| Tanzania | Tanzania Communications Regulatory Authority (TCRA) | The Tanzania Communications Regulatory Authority (TCRA) is a quasi-independent government body responsible for regulating the communications and broadcasting sectors in Tanzania. It was established under the TCRA Act, No. 12 of 2003 (November 2003) to regulate the electronic communications and postal services, and to manage the national frequency spectrum in the United Republic of Tanzania. | Ministry of Communications, Science and Technology (Formerly Communications and Transport) |

| Country | Regulator | Description | Ministry |
|---|---|---|---|
| Zambia | Zambia Information and Communications Technology Authority (ZICTA) | The Zambia Information and Communications Technology Authority (ZICTA) is an ICT regulatory body responsible for regulating the ICT sector in Zambia. It resorts under the Ministry of Transport, Works, Supply and Communications and derives its mandate from the following three Acts: The Postal Services Act, No. 22 of 2009, the Electronic Communications and Transactions Act, No. 21 of 2009 and the Information and Communications Technologies (ICT) Act, No. 15 of 2009, to regulate ICTs, postal and courier services in Zambia. As conferred by the ICT Act, ZICTA also referred to as "the Authority". | Ministry of Transport, Works, Supply and Communications (Formerly Communication and Transport) |
| Zimbabwe | Postal and Telecommunica-tions Regulatory Authority of Zimbabwe (POTRAZ) | The Postal and Telecommunications Regulatory Authority of Zimbabwe (POTRAZ) is a body corporate established in terms of the Postal and Telecommunications Act [Chapter 12:05]. POTRAZ started operating in February 2001. | Ministry of Information Communication Technology, Postal and Courier Services (Formerly Transport and Communication) |

(Source: Commonwealth Telecommunications Organisation 2015; Communication Regulators Association of Southern Africa (CRASA) 2015)

Most of the SADC countries have promulgated laws that require the regulation of ICTs. The regulators are typically focused on the market regulation of ICT participants with the aim of promoting the information society. Primarily, these regulations centre on the allocation of spectrum, telecommunications, broadcasting and other licencing, as well as how these players should conduct themselves. The ministries responsible for ICT seem to be focused on the promotion or coordination of information society programmes.

It is in the context sketched above that SADC countries have also been developing national ICT polices aimed at building their information societies. Table 1-4 is extracted from the appendix of the *National e-Strategies for Development: Global Status and Perspectives 2010* report (International Telecommunication Union 2010a:51–54). The list of these strategies was collected from the ITU WSIS stocktaking database as well as from websites and search engines; the database was built based on the inputs from government and other WSIS stakeholders (International Telecommunication Union 2010a:3). The choice of strategies as listed in the table indicates the perspective of the ITU with regard to what it regards as national e-strategy as per the Tunis Agenda for the Information Society.

Table 1-4: Status of national e-strategies for SADC countries in 2010

| Country | Name of strategy |
|---|---|
| Angola | Strategy for the Development of Information technology 2000-2010 |
| Botswana | The National ICT Policy |
| The Democratic Republic of Congo | In progress, as at 2010. |
| Lesotho | ICT Policy for Lesotho; Lesotho ICT Implementation Plan |
| Madagascar | Lettre de Politique Nationale du Secteur des Télécommunications et TIC pour la période 2007-2012; Stratégie Nationale des TIC pour le Développement [Translated via Google.com as "Letter of the National Telecommunications and ICT Sector Policy for the period 2007-2012; National ICT Strategy Development"] |
| Malawi | An Integrated Socio-Economic and ICT Policy and Plan Development Framework for Malawi |
| Mauritius | National IT Strategy Plan (NITSP); National Telecommunications Policy (NTP - 2004); National ICT Strategic Plan 2007-2011 |
| Mozambique | Information and Communication Technology Policy Implementation Strategy, toward the Global Information Society |
| Namibia | Telecommunications Policy and Regulatory Framework for Namibia; Information and Communication Technology Policy for the Republic of Namibia (2001, 2002) |
| Seychelles | National Strategy on ICT |
| South Africa | The South Africa IT Strategy Project (SAITIS); Strategic Plan 2005-2008; Strategic Plan 2009-2012 |
| Swaziland | ICT Strategy for the Period 2006 – 2011 |
| Tanzania | National Information and Communications Technologies Policy |
| Zambia | Zambia's First Draft National Information and Communication Technology Policy; ICT Policy, Fifth National Development Plan 2006-2010 - a third and final draft |
| Zimbabwe | National ICT Strategy Document; The Zimbabwe ICT Strategic Plan (2010-2014) |

(Source: International Telecommunication Union 2010a:51–54)

Having determined what policies are relevant to build the information society, this researcher was able to locate these policies for the 12 SADC countries as listed in Table 1-5. These policies are what form the foundation for these countries to build the information society and will be the focus of this research.

Table 1-5: Available ICT policies for SADC countries (English)

| Country | Policy name | Date |
|---|---|---|
| Botswana | National Information and Communications Technology Policy | Jul 2007 |
| Lesotho | ICT Policy for Lesotho | Mar 2005 |
| Malawi | National ICT Policy | 2013 |
| Mauritius | National ICT Policy 2007-11 | Sep 2007 |
| Mozambique | Information and Communication Technology Policy | Dec 2007 |
| Namibia | Overarching Information Communications Technology (ICT) Policy for the Republic of Namibia | Feb 2009 |
| Seychelles | National ICT Policy | 2007 |
| South Africa | The National Information Society and Development (ISAD) Plan | 2006 |
| Swaziland | National Information and Communication Infrastructure (NICI) Policy and NICI Plan 2016 | Aug 2006 |
| Tanzania | National Information and Communications Technologies Policy | Mar 2003 |
| Zambia | National Information & Communication Technology Policy | Apr 2006 |
| Zimbabwe | Zimbabwe National Information and Communication Technology | Dec 2005 |

Source: (Author's analysis of various websites)

In addition to the national ICT policies, the SADC countries have also developed their national development strategies. The African Capacity Building Foundation has developed the African Capacity Report which is based on the data collected through the African Capacity Building Index, which "empirically assesses capacity in relation to the development agenda in African countries."

Table 1-6 confirms the existence of national development strategies as well as the level of legitimacy of these strategies within the SADC countries (The African Capacity Building Foundation 2013).

Table 1-6: Existence and legitimacy of national development strategies in SADC countries as at 2013

| | Existence of a national development strategy | Level of legitimacy of the national development strategy (from 0% to 100%) |
|---|---|---|
| Angola | Yes | 50,0 |
| Botswana | Yes | 100,0 |
| Congo (DRC) | Yes | 50,0 |
| Lesotho | Yes | 100,0 |
| Madagascar | Yes | 0,0 |
| Malawi | Yes | 50,0 |
| Mauritius | Yes | 100,0 |
| Mozambique | Yes | 100,0 |
| Namibia | Yes | 100,0 |
| South Africa | Yes | 50,0 |
| Swaziland | Yes | 100,0 |
| Tanzania | Yes | 50,0 |
| Zambia | Yes | 50,0 |
| Zimbabwe | Yes | 100,0 |

(Source: The African Capacity Building Foundation 2013)

Table 1-6 does not include Seychelles (a member of the SADC) because this country does have a national development strategy (Mpande & Kannan 2014:10). The table also shows that the existence of a development strategy does not indicate its legitimacy. However, only one policy listed above is reported as not being legitimate. The existence of national ICT policies and national development strategies provides a fertile ground for the data collection and analysis in the chapters that follow.

## 1.4 Statement of the problem

When this research commenced neither the SADC nor any of its member states claimed to have achieved the status of an information society (SADC 2012:17). As recently as 2017, African countries, were still considered to be lagging behind with regards to the information society (Asongu & Nwachukwu 2017). As the achievement of this 'status' is perceived as enhancing the socioeconomic development prospects of a country or region, it would be desirable to have a

theoretical framework guiding the development of a country's information society strategies, policies and plans that are likely to succeed.

The problem this study aims to deal with is to address the lack of an explicit theory for building an information society for strategies, policies or plans that developing countries have adopted. From the preliminary overview of the literature, this researcher believes that the theory that underpins the information society strategies, policies or plans that have been adopted by SADC countries has not been adequately researched and outlined. Some studies have been undertaken to outline and facilitate a better theoretical understanding of the information society (Kasvio 2001). However, it is illustrated by the observation of this researcher that none of the academic studies focusing on the information society that are registered with the Nexus Database of the National Research Foundation compare or analyse the various information society strategies of the different countries in any way, nor do they refer to a theory on which countries can rely to build an information society. This has also been suggested in Sections 1.1 and 1.3. The Nexus Database records South African dissertations and theses in all fields since 1919, all research funded by the National Research Foundation as well as forthcoming conferences (National Research Foundation 2014). The same has been found during a search of other databases such as Google Scholar, EbscoHost, SabiNet, SabiNet Catalogue of Theses and Dissertations, Emerald, JStor, RefAware, ScienceDirect, Taylor and Francis, and UnisaETD. None of the studies in these databases challenge the basis on which most of these strategies are built.

It is acknowledged that other factors such as the lack of funds may be contributing to the non-achievement of the information society. The identification of the theoretical basis should lay the groundwork of the identification and understanding of all those other factors as is thus a prerequisite for developing a successful model for building the information society.

### 1.5 Research purpose

The purpose of this research is to investigate the theoretical underpinnings of the national ICT policies of the SADC countries to develop a theoretical framework for

African and, more specifically, SADC countries to utilise for successfully building an information society.

### 1.6 Objectives of the study

The key objectives of this study are listed below:

- **Objective one**: To determine the rationale of the national ICT polices for SADC countries
- **Objective two:** To explore the package of policy instruments that the SADC countries consider to be key for the building of the information society
- **Objective three:** To discover the key concepts within the national ICT policies that are related to the success of information society within SADC countries
- **Objective four:** To develop a theoretical framework for building the information society within SADC countries

### 1.7 Research questions

Recker (2013:26) argues that “a good doctoral study starts and ends with the right research questions”. According to Creswell (2014:139), in qualitative studies, researchers ask a central question as well as sub-questions to focus the research. Research questions make it possible to research the research problem (Blaikie 2007:2). The central research question that this study aims to respond to is: What are the theoretical underpinnings that could assist SADC countries in developing, updating or implementing their information society strategies, policies or plans?

Expanding on the problem statement, the purpose of the research, as well as key objectives of the research as stated above, this study will also respond to the following research questions:

- **Sub-question one**

What is the rationale for the national ICT policies of the SADC countries?

- **Sub-question two**

What are the package of strategies, policies, plans or programmes adopted by various SADC countries in their effort to build the information society?

- **Sub-question three**

What are the implicit and explicit approaches and theoretical grounding embedded within the package of strategies, policies, plans or programmes implemented by the SADC countries?

- **Sub-question four**

What is the theoretical framework or model that could guide SADC and similar countries in building an information society?

Table 1-7 outlines how the questions listed above relate to the research objectives and where this researcher expected to find the relevant information.

Table 1-7: Research objectives, research questions, research methods and research instruments

| Research Objective | Research Question | Research Methodology | Research Method |
|---|---|---|---|
| To determine the rationale of the national ICT polices for SADC countries | What is the rationale for the national ICT policies of the SADC countries? | Qualitative | Content Analysis<br>Interviews<br>Literature |
| To explore the package of policy instruments that the SADC countries consider to be key for the building of the information society | What is the package of strategies, policies, plans or programmes adopted by various SADC countries in their effort to build the information society? | Qualitative | Content Analysis<br>Literature |
| To discover the key concepts within the national ICT policies that are related to the success of information society within SADC countries | What are the implicit and explicit approaches and theoretical grounding embedded within the package of strategies, policies, plans or programmes implemented by the SADC countries? | Qualitative | Content Analysis<br>Interviews<br>Literature |
| To develop a theoretical framework for building the information society within SADC countries | What is the theoretical framework or model that could guide SADC and similar countries in building an information society? | Qualitative | Content Analysis<br>Interviews<br>Literature |

## 1.8 Significance of the study

According to Creswell (2014), the significance of a could indicate how the study adds to scholarly research and literature, improves practice or improves policy (Creswell 2014:119–120). As indicated in Section 1.1, for the less developed

countries, the literature is scant on theory (Checchi et al. 2003:45, 2012:57–58; Cohen et al. 2002:43).

Through generating a theoretical framework and model for the building of an information society within the SADC, this study contributes to the scholarly research and literature within the information science. While this research is focused on SADC countries, it provides a platform for further research that could be conducted with respect to other developing countries as these share many characteristics. Furthermore, this research adds to the understanding of the rationale for developing the national ICT policies within SADC countries.

As much as policy problems may inspire theory building, theory has a direct impact on policy making. According to Walt (2005), who has investigated these issues from an international relations perspective, “theory and policy are inextricably linked” (Walt 2005:28). This researcher is of the opinion that this observation also applies to the information science scenario. In this regard, it is implied that this study will contribute towards policy in ways such as (Walt 2005):

- diagnosing the national environment of SADC countries to ensure that the correct policy interventions are put in place
- predicting the outcomes, through understanding of the key concepts related to the information society at work and how they related to each other
- prescribing specific policy actions based on what the theory hypothesises
- evaluating the effectiveness of a policy based on the theoretical parameters within theory.

Some SADC countries such as Zimbabwe continue to be involved in a process to update their national ICT policies (Rutsito 2015). Furthermore, there are also studies that indicate that African countries, including SADC countries, have not been successful in building the information society and thus policy still needs to be developed to ensure success (Asongu & Nwachukwu 2017). This research could contribute to ensuring that their updated policies are founded on a solid theoretical

base. Good theory should lead to good policy; the implementation of good policy should lead to good outcomes.

In proposing a theoretical framework and model, this study contributes to the practice of policy making and policy implementation, particularly with regard to information policy. In the domain of the information society, policy is not only of relevance to the traditional government officials, but also to a significant part of the people who are interested in the building of the information society (Makoza 2017:8). As suggested by one of the respondents who was interviewed, it could also be of interest to the entire society in a country. It is argued that the building and use of theory in an information science-related study contributes to the development of the discipline of library and information science (Kim & Jeong 2006).

### 1.9 Justification of the study

This section justifies the research by showing why the study is significant and deserves our attention (Recker 2013:29). This researcher has been involved in programmes to implement the information society within a subnational context for a period of almost a decade now. As part of this programme, it became clear to this researcher that there are no theories or models to guide practitioners on how to implement the information society, specifically for developing countries. The observation made by this researcher is that the approach often adopted has been to develop a template of what an information society should be and, based on that, identify the gaps between the model information society and the area in question and develop a process to fill those gaps. This approach, which was observed in more than one instance, did not appear to be adequate and indicated a gap in the knowledge related to the information society. Furthermore, Singh (2010:218) had observed that rhetoric was often "the origin of legislation and the promoter of policy once that legislation is in place." All these observations led this researcher to scour the literature to identify any theory or model to build an information society.

Currently, there is abundant literature on the nature and benefits of building the information society as well as how this is measured. This researcher believes, based on the various approaches to measuring readiness or actual progress, it is often assumed that undertaking activities that directly address what is often measured is

the key to and principal method of developing information society strategies, policies and plans, instead of basing these on a proper or grounded theory. The primary contribution of this study would be to analyse the information society strategies, policies or plans adopted by SADC countries in order to identify or develop a theoretical framework and model.

As already alluded to, the information society is perceived to be a significant contributor to development (Southern African Development Community 2001). In a region with a population of more than a quarter of a billion people living in relative poverty (The World Bank 2012) it is desirous to find solutions that would improve their lives.

Lastly, it is expected that this study will contribute to the strengthening or weakening of the theories that appear to underpin the development of information society strategies and the consequent programmes. These theories have been utilised by the Harvard University's Center for International Development's (CID) *Readiness for the Networked World: A Guide for Developing Countries*, Asian Pacific Economic Cooperation's (APEC) *E-Commerce Readiness Assessment* and the Computer System Policy Project's (CSPP) *Readiness Guide for Living in the Networked World* (Sehlapelo 2010). It should be noted that since 2010, a new trend has emerged to move away from e-readiness, which focused on investment in network infrastructure, skills and regulatory frameworks, towards some form of measuring the effective use of ICTs rather than its availability (International Telecommunication Union 2014b; Economist Intelligence Unit 2010).

It was initially the view of this researcher that the planned time of completion of this study (the end of 2015), would coincide with the tenth anniversary of the Tunis leg of the WSIS and an appropriate time to assess the progress made in building the information society. This study could provide one of the sources of useful information to build on the next steps towards actualising the information society, specifically for developing countries. Even though this study was not completed by 2015, this is still possible.

## 1.10 Originality of the study

Doctoral research does not only have to be significant and justifiable, it must also be original. Originality has been described as a characteristic of a study in that it uses “a new approach, method, or data, studying a new topic and doing research in an understudied area, as well as producing new theories and findings” (Guetzkow, Lamont & Mallard 2004:191).

This study ascribes its originality primarily to the fact that it is has focused on an area that has not been sufficiently studied in two respects. Firstly, it has related to the national ICT policy processes (Makoza 2017:3) and, secondly, it has built new theory with respect to developing countries (Checchi et al. 2003:45, 2012:57–58; Cohen et al. 2002:43). Another factor that contributes to the originality of the study, is the fact that it has produced new theories related to the information society by presenting propositions relating to the implementation of the information society that were up to now only implied in the national ICT policies of the SADC countries.

## 1.11 Research methodology

The purpose, objectives and research questions have an impact on how a specific study should be designed and conducted (Durrheim 2006:37). Since the purpose of this study is to develop a theory, this researcher decided that the grounded theory approach would be most appropriate (Babbie 2014:315; Charmaz 2006:xi; Urquhart 2013:3).

This research was designed from a constructivist perspective in two stages whereby 12 SADC countries’ national ICT policies were coded using manifest content analysis as its first stage to extract the themes (Babbie 2014:346–347; White & Marsh 2006:23) that would ultimately form the key concepts. The grounded theory process consists of open coding, selective coding and theoretical coding (Urquhart 2013:45–51). The key concepts and how they relate suggested an emergent theory and provided more room for theoretical sampling and coding. This formed the basis of the second stage of the design, being the analysis of other documents. This stage also included open-ended interviews for key informants, all of which were qualitatively analysed to respond to the research questions and generate a theory

for building the information society for SADC countries. This is further elaborated on in Chapter Three, which discusses the methodology.

### 1.12 Ethical considerations

It is important that all aspects of research should be conducted in an ethical manner, which means that the choice of topic, the design, the section and the collection of data and other information, as well as how it is reported, should all be done in the right way (Le Roux 2015:84). This research was conducted in line with the University of South Africa's (Unisa) Policy on Research Ethics (University of South Africa 2016).

Being cognisant of this fact, this researcher attempted to ensure that, in all the activities related to this study, an ethical lens was worn, and actions taken were in line with the ethical principles of research. Whenever words or images that were sourced from elsewhere are presented in this thesis, these are appropriately referenced in order to avoid plagiarism. Before the collection of data, ethical approval was obtained and the makeup of the results accurately reflect what was found (Le Roux 2015:107–108). All the informants that were interviewed were afforded the opportunity to provide informed consent through the form attached as Appendix C.

### 1.13 Scope and delimitations

It would not be possible or desirable for this study to address every aspect that is related to the identified problem. Some authors indicate that delimiting a study is important to focus the study (Bak 2004:23–24; Leedy & Ormrod 2015:62; Maree & Van der Westhuizen 2009:38–40). To ensure that the study is manageable, it focuses only on SADC countries, particularly those that have documents available in English. It was expected that by excluding countries that do not speak English, this researcher might only deal with nine countries. In other words, Angola, Democratic Republic of the Congo, Madagascar, Mauritius, Mozambique and Seychelles would not have formed part of the study, apart for instances where documents and individuals conversant with English can be engaged.

Furthermore, this study was delimited by focusing on national information society strategy, policy and planning documents generated in the period between 2005 and 2014. The WSIS was held in 2005 and the resolution taken that countries had to develop information society strategies. In addition, it was expected that the data collection phase of the study would be completed by the end of 2014. Since there are always new developments, especially in the field of information science, there was a risk that this could have delayed the conclusion of the study. On this basis, 2014 was taken as the capping for the period of study.

Due to the risk of being distracted by various focus areas related to the information society, this researcher has decided to focus purely on national and regional (i.e. SADC) aspects of the information society. This study focused on information society strategies, policies or plans rather than on, for instance, e-education or e-health strategies. Consideration was given to the fact that these may be sub-sets of the former.

To ensure that the theoretical framework developed is in line with the conceptual framework developed in Chapter Two, this study, in analysing the national ICT policies, confirms and reports on the rationale for the development of the national ICT policies in Chapter Four.

## 1.14 Organisation of the thesis

This thesis is organised according to the following six chapters:

- **Chapter One: Introduction to the study**

  This first chapter of the study provides a broad background of and context to the study, including a definition of the key concepts. Emanating from this, a statement of the problem, the research purpose, the objectives and the research questions are discussed. The chapter also discusses the significance, justification and originality of the study, which are followed by an exposition of the methodology, ethical consideration and the scope and delimitations of the research.

- **Chapter Two: Theoretical perspectives**

The objective of Chapter Two is to provide a theoretical framework for this study based on what the relevant literature says. The chapter also serves as a literature review within the context of grounded theory methods. This implies that the literature does not cover the aspects of the research related to the theoretical aspects of building an information society.

- **Chapter Three: The research methodology**

Based on the literature, this chapter addresses, among others, the following points:

  - The philosophical backdrop of the grounded theory methods
  - Choice of the research design and its justification
  - Selection and justification of the participants that are selected
  - The sampling method that was adopted
  - The data collection tools as well as their validity and reliability
  - How the data was collected and analysed

- **Chapter Four: Presentation and analysing the findings**

This chapter discusses how the national ICT policies, as well as the transcripts from the interviews, were coded. The chapter highlights the key concepts that ultimately form the basis of the emergent theory and model that developed.

- **Chapter Five: Interpretation and discussion of the finding**

In this chapter, the findings presented in the previous chapter are interpreted and discussed based on the literature. Based on the discussion, the emergent theory is refined to propose the theory for building an information society for SADC countries. This is presented in a graphical format, where possible, to provide ease of interpretation and understanding. This chapter also integrates the results in Chapter Four with the information in Chapters Two and Three.

- **Chapter Six: Summary, conclusions and recommendations**

  In this final chapter of the report, this researcher summarises his conclusion and presents his recommendations. These answers to the objectives of the study and the research questions.

## 1.15 Chapter One summary

This chapter provides a broad introduction to the study commencing with a background and context. The context provides a high-level overview for the SADC and how it relates to the building of the information society. This is followed by the context and a discussion of the key concepts such as the information society and development. The chapter discusses the problem that the study aims to deal with as well as the purpose, objectives, research questions, scope and delimitations to the study. In discussing the significance, justification and originality of the study, the chapter emphasises the importance of building an indigenous theory that will support policy making, particularly for developing countries. This is followed by an overview of the methodology and ethical considerations and concludes with an exposition of the thesis structure.

# CHAPTER TWO: THEORETICAL PERSPECTIVES

## 2.1 Introduction

Having outlined the rationale for and delineated the general context of this study in Chapter One, this chapter provides the key elements of the research framework adopted for this study. A research framework is useful in guiding the effective execution of research activity. It provides the basic structure of the ideas that hold together whatever is investigated and forms the "basis and justification for all aspects of the research" (Lester 2005:458). Lester (2005) considers research frameworks as providing the following four advantages: firstly, they provide the structure for thinking about and designing the research; secondly, they ensure that the collection and analysis of the data make sense; thirdly, they assist in making observations beyond what common sense provides; and fourthly, they provide a platform for a deeper understanding of the issues at hand (Lester 2005:458). Furthermore, a research framework assists in ensuring the coherence and cohesion of the project.

There are typically three types of research frameworks, two of which are most commonly used. Based on the work of Scriven (Scriven 1986), among others, Eisenhart (1991:205–212) has identified conceptual, theoretical and practical frameworks as the three types of research frameworks (Lester 2005:458–460). The two common research frameworks are the conceptual framework and the theoretical framework, whereas the less common framework is the practical framework (Lester 2005:458–460; Ngulube, Mathipa & Gumbo 2015:43).

In order to provide a practical and rational approach to considering the choice of research frameworks for research in mathematics education, Lester offers some explanation of these three frameworks. He states that a practical framework structures the research according to the accumulated knowledge of different forms of practitioners rather than according to formal theory (Lester 2005:459). The use of this framework is inappropriate in the context of this study as the aim of this research is to generate a theory surrounding the development of an information society within SADC countries. A further limitation of this framework derives from the fact that it is

based on the views of practitioners who may not consider macro-level constraints (Lester 2005:459).

The approach adopted in this research is based on the view that “A conceptual framework is an argument that the concepts chosen for investigation, and any anticipated relationships among them, will be appropriate and useful given the research problem under investigation” (Lester 2005:460). A further explication of the purpose of a conceptual framework offered by Shields and Rangarajan (2013:24) is that it determines the organisation of ideas in order to “achieve the research project’s purpose”. This definition avoids the use of the terms ‘theory’ or ‘concept’, which other definitions tend to use. This omission allows the understanding of conceptual framework to be much broader. Rather than focusing on theories, a conceptual framework, according to this definition, highlights the key concepts relevant for the study (Henning, Van Rensburg & Smit 2004:26).

Different authors describe the various misconceptions ascribed to researchers’ definition and use of theoretical and conceptual frameworks (Jabareen 2009:51; Ngulube et al. 2015:43–45; Ocholla & Le Roux 2011:62). One of the prevailing misconceptions relates to the conflation of theoretical and conceptual frameworks as conceptual frameworks (Henning et al. 2004:26; Ngulube et al. 2015:44). What distinguishes a theoretical framework from any other framework is that it guides research activities by its reliance on a formal theory (Henning et al. 2004:26; Lester 2005:458; Ngulube 2018:11; Ngulube et al. 2015:50–60; Sinclair 2007:39). A theoretical framework is based on one or more formal theories in order to explain the phenomena being studied. Formal theory is a theory that has been “developed by using an established, coherent explanation of certain sorts of phenomena and relationships” (Lester 2005:458). In other words, a theoretical framework is based on a specific formal theory or a set of formal theories to explain the phenomena being studied. On the other hand, a conceptual framework outlines how the concepts relevant to a study relate to each other. For the purpose of completeness, it is worth noting that Maxwell (2013:44) identifies four main sources that could be utilised to generate a conceptual framework. These are, the researcher’s experiential knowledge, a pilot or exploratory research, thought experiments and existing theory and research implying the literature (Maxwell 2013:44). The

discussion in this section focuses on the literature. This researcher will utilise the available literature to generate a conceptual framework around which the study revolves.

In presenting the conceptual framework for this study, this chapter commences by outlining the literature map that will be utilised to provide an understanding of the key concepts.

## 2.2 Mapping the literature

Academic research necessitates a review of literature relevant to the topic being investigated. The purpose and benefits of undertaking a literature review and reporting on it are varied: it provides the researcher with a sense of other related research that has been conducted, it positions a study within the context of other studies and it allows for the comparison of results. The literature review can also provide the researcher with new perspectives on how to conduct his or her research. These perspectives could include the discovery of alternate sources of data, measurements, tools or methodological and research aspects. It further serves the purpose of informing the researcher about other researchers in his or her areas of interest (Creswell 2014:27–27; Gorman, Clayton, Shep & Clayton 2005:73; Henning et al. 2004:27; Leedy & Ormrod 2015:70–71; Ngulube et al. 2015:58).

The presentation of the literature is often done through what is referred to as a literature review. While all academic research should include the literature, the amount of the literature presented at any point in the report is dependent on the approach of the researcher (Leedy & Ormrod 2015:71). Creswell (2014) identifies three points at which a literature review could be included in a qualitative study: in the introduction, as a separate section, or near the conclusion. When placed in the introduction of the study, it typically provides a context and justification for the research. Studies that are theory oriented, such as the ones positioned from a post-positivist perspective, generally opt to include the literature review as a separate section. In contrast, presenting the review towards the end of the study allows the researcher to compare his or her findings with the extant theories within the literature (Creswell 2014:28–31).

The literature review assists the researcher in choosing his theoretical framework (Ngulube et al. 2015:54). Therefore, this implies that there can be no theoretical or conceptual framework without a literature review being conducted first. On the other hand, it is possible to conduct a literature review without presenting a theoretical framework.

Ngulube et al. (2015:58) point out that a literature review is necessary even in situations where a researcher would want to avoid contaminating his or her studies with pre-considered theories, such as is the case in grounded theory research. Because research is never conducted in a vacuum, the researcher's involvement in the discipline implies that a certain degree of contamination is always inevitable (Ngulube et al. 2015:58; Urquhart & Fernández 2013:226). The view that grounded theory-related studies should not engage with the literature is a myth. The fact that it has been considered a myth for some time is aptly captured by Urquhart (2002:50):

> [T]here is nothing in the GTM literature that specifically precludes looking at relevant literature before entering the field, and then conducting a further search in order to relate the theory produced to the literature. … In practice, a researcher can refer to existing literature before commencing data analysis, but should be mindful – and check for – categories that may have come from the literature.

In fact, some proponents of grounded theory methods argue that the very essence of the method is the systematic use of knowledge, literature, analytical skills and theoretical sensitivity to rigorously generate theory. This process, however, requires that this resultant theory should be engaged with the existing theory as presented in the literature, implying the necessity of engaging with the literature later in the research as well (Urquhart & Fernández 2013:226).

William James uses the analogy of picking up rocks in a field to demonstrate the importance of theory – one requires a theory to pick up rocks in a field in order to avoid picking up other things as well. An appropriate theoretical grounding ensures that one is able to distinguish rocks from other objects (Agar 1980:23; Maxwell

2013:50). Based on this logic, this section aims to present some literature to explore other related studies and to clarify some of the key concepts before going into the field.

The studies that are similar or related to the current one, are placed in a different context or have a different scope. Related to the first research objective, which is to "determine the rationale of the national ICT polices for SADC countries" but within the context of South Africa, Singh (2010:213–214) argues that Nelson Mandela and Thabo Mbeki, as South African leaders and policymakers, emphasised that the building of the information society and promotion of ICTs should be linked to socio-economic development. Singh's (2010) study links the discourse on the information society intrinsically with development and particularly sees the purpose the South African information society policies as being to achieve development.

There is a view that ICT is a tool to achieve development and the information society is a framework for organising growth and prosperity (Singh 2010:212; Van Audenhove 2003b:129). Van Audenhove (2003a:58) challenges this view as being propagated by the west and being simplistic in that it undermines the inherent weaknesses of the developing countries. These weaknesses are because of weak science and technology systems as well as the cultural, educational, political, geographical and commercial barriers to information and knowledge.

An alternative view that needs to be considered is that development contributes to the increased use of ICT. In support of this view, there are studies that have observed that countries that are considered developed countries use more ICTs than those that are not developed or are underdeveloped (Yoon & Chae 2009). Furthermore, even Singh himself reports that despite the increase in internet usage within the developing world, the balance between the developed world and the developing world is still in favour of the developed world (Singh 2010:210). This could suggest that development itself could be a factor that determines the increased use of ICTs, rather than the other way around. Alternatively, development and the information society could be mutually reinforcing.

Since this research is about the development of a theoretical framework, this researcher had to establish the extent of theory-related research around the information society development. Of the research that was conducted in relation to theory and the information society, there are those who focus on the theory related to the nature of the information society (Castells 2000a, 2010, 2011; Fuchs 2008; Karvonen 2001; May 2002). The discussion of many of these theories will be presented in Section 2.3.

There are also studies that consider the importance for countries to develop national ICT policies or e-strategies (Labelle 2005; Yoon & Chae 2009). The lack of theoretical or conceptual frameworks that support the development of national ICT policies or e-strategies has also been identified (Yoon & Chae 2009). The literature also provides some guidelines that are expected to ensure the success of the national ICT policies (Dragomirescu & Filip 2013; Harcourt 2013; Labelle 2005; Makoza 2017; Poel, Kool & van der Giessen 2010; Ulrich & Chacko 2005; Yoon & Chae 2009). Many of these guidelines address different aspects related to the national ICT policies or e-strategies, some of which have a theoretical bearing, as discussed below.

Yoon and Chae (2009) argue that there are critical success factors (CSFs) that need to be considered in developing the national ICT policies. In their view, these CSFs are relatively important depending on the development status of the country. The study was based on the perceptions of a group of experts from developed countries validated by experts from developing as well as underdeveloped countries. These CSFs are listed below, and the relative priorities shown in Figure 2-1:

- ICT infrastructure
- Funding
- Human capital
- Educating the public
- Literacy
- ICT services
- Institutional structure

- International cooperation
- Privacy and security
- Legal framework
- E-participation
- Monitoring and evaluation
- Political leadership
- Private partnership

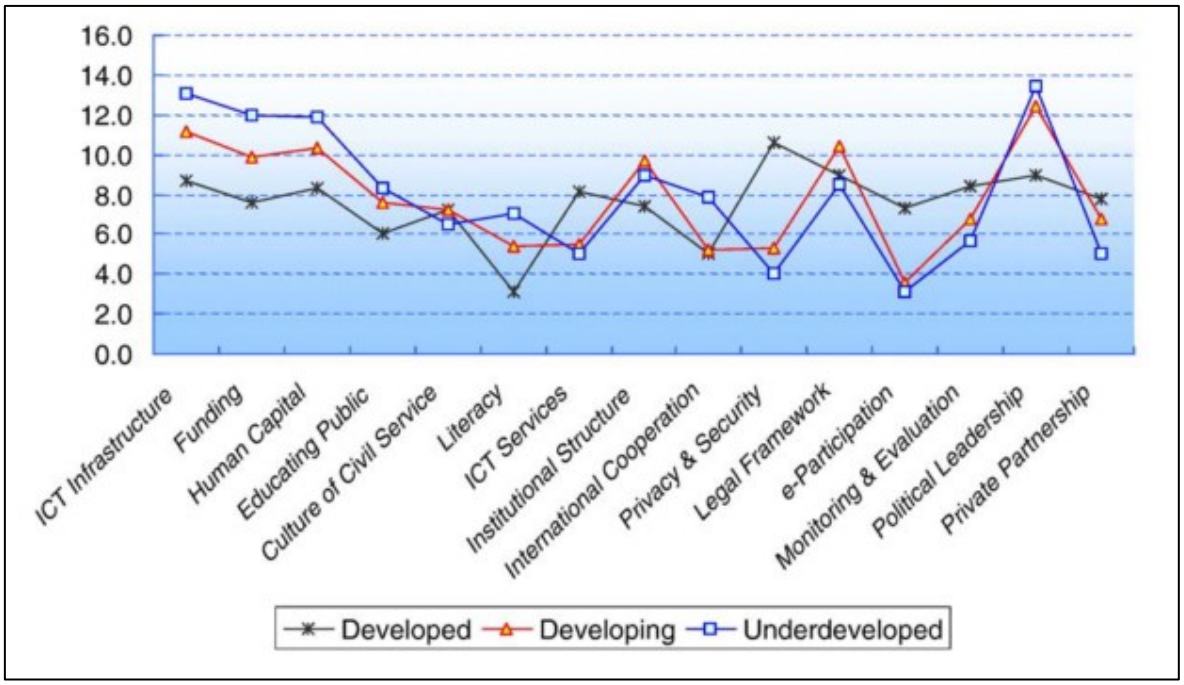



Figure 2-1: Pattern of strategic priorities of CSF by the scale of economy (Weighted by experts from developed countries)
Source: (Yoon & Chae 2009:31)

In terms of Figure 2-1, the top five highest ranking CSFs for developing and underdeveloped countries are political leadership, ICT infrastructure, funding, human capital and legal framework. The figure also shows that the level of economic development has an impact on the perceived importance of the CSF required for building a successful information society. These CSFs could also be considered as key drivers for achieving the information society, a status that is often included in the e-readiness measurements.

The Harvard Center for International Development (Center for International Development at Harvard University n.d.) has developed one of the common e-readiness guides. In terms of this guide, network access is one of its key categories that addresses the availability, as well as the cost and quality of ICT networks, services and equipment. There are quite a number of tools for measuring e-readiness (Hanafizadeh, Hanafizadeh & Khodabakhshi 2009; Mutula & van Brakel 2006) but, for the purpose of this discussion, it is not necessary to outline them. Embedded in e-readiness is an understanding of where a country is, relative to where it wants to be in terms of the information society. It is this understanding that is expected to lead to the development of a national ICT policy that will achieve the building of the information society (Hanafizadeh et al. 2009; Mutula & van Brakel 2006; Ulrich & Chacko 2005). In other words, the higher the e-readiness score or ranking, the more of an information society a country is or the better the country is positioned relative to other countries. In this sense, the dimensions of an e-readiness measurement framework constitute one of the theoretical building blocks of the information society.

Other researchers have addressed different aspects with regard to the dearth of theory related to the building of the information society. Many of these deal with theories related to consultation in the process of developing national ICT policies (Checchi et al. 2012; Makoza 2017; Sharma, Fantin, Prabhu, Guan & Dattakumar 2014). Of interest is the work of Makoza (2017) who suggests the need for a theory to understand power relations between the stakeholders for the national ICT policies of developing countries utilising Malawi, one of the SADC countries, as an example. This contribution is quite useful in noting the need for research that critically analyses ICT policy processes, particularly in Africa (Makoza 2017). Compared to other studies, Makoza's (2017) research proposes some form of theory, relates to a country within the SADC and addresses issues that contribute to the success of the national ICT policies.

There is other literature that attends to some of the key concepts necessary to be clear in addressing the research questions identified in Chapter One. These will be presented in the form of a literature map. By presenting a literature map, this researcher guides the reader through the key literature relevant to this study. A

literature map is a visual picture of groupings of the literature on the topic of the research. It can also be described as a summary of the research that has been conducted by other researchers presented visually (Creswell 2014:36–38). While Creswell (2014) indicates that the role of the literature map is to show how a study "adds to, extends, or replicates research already completed" (Creswell 2014:36), Rahmandoust et al. (2011:7) add that it has additional benefits of assisting researchers to determine how the different parts of the research relate to each other, identifying gaps in the literature, as well as establishing whether the study fits within the literature. Burian, Rogerson and Maffei III (2010:50) further add that the literature map helps to organise the research material. To extract all these benefits, Figure 2-2 provides the literature map for this study. Due to the fact that this study is inductive in nature, additional literature will be also discussed in Chapter 5 to compare and contrast the emerging theory with any extant theory (Creswell 2014:30).

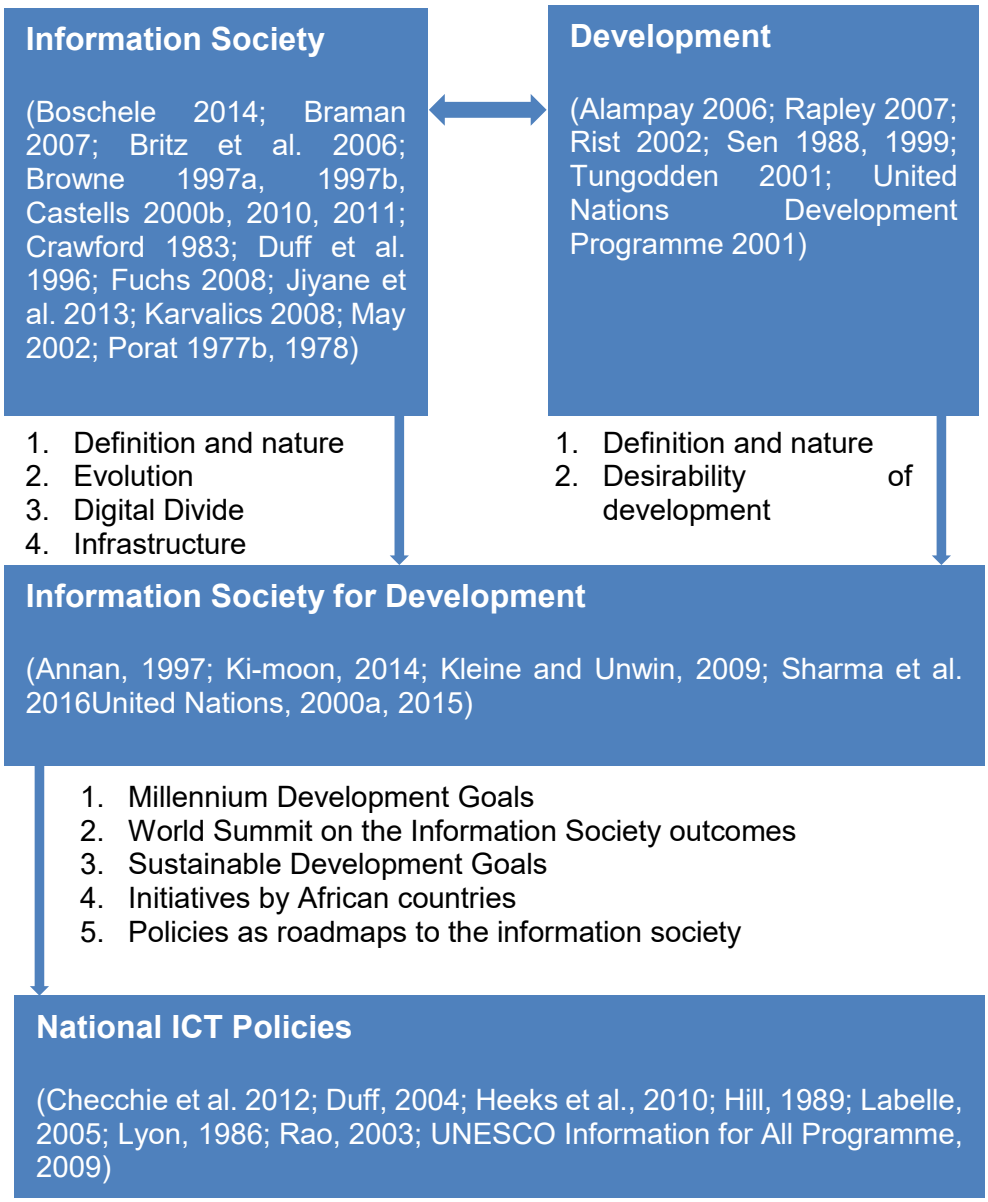



Figure 2-2: Literature map outlining the key concepts

Source: (Own Work)

The four research questions outlined in Chapter One can only be responded to effectively with an understanding of the concepts outlined in the literature map presented in Figure 2-2. Each element of the literature map is a piece in the puzzle that responds to the research questions as illustrated in Table 2-1.

Table 2-1: Linkages between the themes in the literature map and the research questions

| Research Question | Issues Covered in the Literature Map |
|---|---|
| What is the rationale for the national ICT policies of the SADC countries? | • Information society<br>• National ICT policies<br>• Development |
| What is the package of strategies, policies, plans or programmes adopted by various SADC countries in their effort to build the information society? | • Information society<br>• Information society for development<br>• National ICT policy |
| What are the implicit and explicit approaches and theoretical grounding embedded within the package of strategies, policies, plans or programmes implemented by the SADC countries? | • Information society<br>• Information society for development<br>• National ICT policies<br>• Development |
| What is the theoretical framework or model that could guide SADC and similar countries in building an information society? | • Information society<br>• Information society for development<br>• National ICT policies |

The table indicates which research question is linked to the literature related to the issues covered in the literature map.

## 2.3 The information society concept

The key fundamental concept addressed in this research is that of the information society as outlined and conceptualised in Chapter One. Considering the multiple definitions of the information society (Braman 2007), this section provides a more in-depth discussion of the concept. In this section, this researcher will begin by tracing the origin and development of the term to provide the reader with a context from which to understand the research.

There is sufficient consensus among researchers that the origin of the term “information society” should be traced back to the economist Fritz Machlup’s 1962 monograph *The Production and Distribution of Knowledge in the United States*. In this monograph, Machlup did not refer to the concept as an information society but rather as a knowledge industry (Crawford 1983:380–381; Duff, Craig & McNeill 1996:118; Grewal 2008:57; Holmner 2008:54; Karvalics 2008:31; Karvonen

2001:25). Grewal states that Machlup's conception of the information society is rooted in an economic position rather than a broader one (Grewal 2008:57). Despite the fact that there are conceptual differences between information and knowledge within the information sciences, using these terms interchangeably seems to be acceptable in some contexts (Browne 1997a:264; Duff et al. 1996:118). The latter view seems to be more reasonable. The provenance of the phrase or term 'information society' has provoked debate (Duff et al. 1996:117). When the journal ran a series of articles on the theme 'information society' between November 1964 and July 1966, the editors of the Japanese journal, *Hoso Asahi*, were credited with being the first to use the term 'information society' (Duff et al. 1996:119; Karvalics 2008:29–30).

Daniel Bell has popularised the term 'post-industrial society' to refer to the same concept of the information society (Boschele 2014:8; Karvalics 2008:30). Although the term is merely a temporal description of a period that occurred after the industrial era, the key element of this is the emphasis on the role of information and knowledge in the economy and society (Boschele 2014:8). Unlike Machlup, Bell's analysis provides a picture of both the economy and society (Duff 2004:74; Karvonen 2001:26; Keenan 2010:16). Yoneji Masuda, a Japanese scholar, explained that the information society is, in fact, the post-industrial society (Duff et al. 1996:117). Both Bell and Machlup influenced and laid the foundation for Porat who expanded their work to explore what we now refer to as the information society (Porat 1977a:viii). Following on Porat, a sudden slew of researchers contributed to the concept of the information society; these included Castells (2000a, 2010, 2011), Karvonen (2001), May (2002) and Fuchs (2008). Multinational organisations such as the United Nations and its agencies such as the International Telecommunication Union (International Telecommunication Union 2014b) and the Organisation for Economic Cooperation and Development (International Telecommunication Union 2014a; UNESCO Institute for Statistics 2003) also gave inputs into the information society or its equivalent.

The current researcher has opted to use the term 'information society' rather than 'knowledge society' and this choice will be discussed below. However, researchers have used different terms to refer to the information society from as far back as the

1970s (Duff et al. 1996; Ocholla 2014:20–21; Porat 1978:72). Duff et al. (1996:118) quote Bell's seminal work *The Coming of Post-Industrial Society,* published in 1973, for choosing not to adopt the phrase, 'information society' stating that:

> The question has been asked why I have called this speculative concept the 'post-industrial society' rather than the knowledge society, or the information society, or the professional society, all of which are somewhat apt in describing salient aspects of what is emerging.

Therefore, contrary to what some authors such as Jiyane, Majanja, Mostert and Ocholla (2013:1) state, the knowledge society is not a relatively new concept and the question of whether to use 'information society' or 'knowledge society' has been posed at least since the early 1970s.

According to Ocholla (2014:21), the concepts 'knowledge society' and 'information society' are closely related. Considering that Browne (1997a:264) and others (Shreiber & Ishmaev 2010) refer to the utilisation of 'information' and 'knowledge' interchangeably by some researchers, it is appropriate that Britz, Lor, Coetzee and Bester (2006:30) have observed that the terms 'information society' and 'knowledge society' can also be used interchangeably. However, outlined below is why this study opts to use the term 'information society' rather than 'knowledge society' or any other variation thereof.

The term 'information society' has been chosen primarily because it has been formalised by the United Nations' system and has been entrenched in many of the governmental documents from the time of the World Summit on the Information Society to date. The Tunis Commitment describes the information society as a society where people everywhere can "create, access, utilise and share information and knowledge" (United Nations World Summit on the Information Society 2005a). Even when it refers to *information* and *knowledge,* it continues to refer to an *information* society (United Nations World Summit on the Information Society 2005a). However, UNESCO seems to favour describing this society as a *knowledge* society (Britz & Lor 2010). In the observation of this researcher, the view adopted by UNESCO seems to be the minority view within the UN system.

While the researcher has pinned down in Chapter One what the researcher accepts as the definition of the information society in Chapter One, it is necessary to explore the various definitions of the information society in more detail. Webster (2006:8–24) identifies six types of definitions for the concept. He argues that apart from one, these definitions are neither cogent nor adequate to sustain the characterisation of a community as being an information society. In Table 2-2, this researcher considers various definitions of what constitutes an information society to distil an appropriate delineation of the term. The structure of the table is intended to provide the definition or description, the person or organisation that came up with the definition and, lastly, the source of the information.

Table 2-2: Definitions/descriptions for information society

| Definition of information society | Originator | Source |
|---|---|---|
| The passage from industrial societies to other forms of societies has been strongly influenced by knowledge/information and technology. These transformations have been encapsulated in the general term 'information society'. This encapsulates social processes, actors, learning processes and elements such as values, languages or social representation involved with the production, storage, manipulation and diffusion of knowledge. | Boschele | Boschele (2014) |
| It is a society that operates within the paradigm of the economics of information. It values human capital as the prime input to production and innovation. A knowledge society is well connected via modern ICTs to the dematerialised economy and has access to relevant and usable information. A highly sophisticated physical infrastructure underpins this economic model and allows the delivery of the material objects that are accessed and manipulated in the dematerialised world of modern ICTs. | Britz, Lor, Coetzee & Bester | Britz, Lor, Coetzee & Bester (2006) |
| Information and knowledge societies are characterised by demand for universal access to and the use of high-quality information for the creation, accumulation and dissemination of knowledge. | Dr Ivy Matsepe-Casaburri | Chigona, Pollock & Roode (2009) |

| Definition of information society | Originator | Source |
|---|---|---|
| The information society is a type of society where the acquirement, storage, processing, exchange, diffusion and utilisation of knowledge, inclusive of their technological possibilities of interactive communication, become increasingly important. In this notion, knowledge has become the decisive factor for economic growth and technological advance. | The German Council for Research, Technology and Innovation | Degele (1997) |
| An information society is one in which society is aware of the importance of information in every aspect of its work, an attitude of mind that makes for the efficient, productive and broad utilisation of information in every aspect of life. | Dordick and Wang (1993, 128) | Degele (1997) |
| An information society is a society in which time use, family life, employment, education and social interaction are increasingly influenced by access to information technology, e.g. television, telephones, radios, videos, computers, etc. Sometimes, the term is used as a synonym for 'information economy' … others deny that economy and society are identical. | Government of Australia | Government of Australia (1991) |
| This is a post-industrial society in which industrial employment has declined, while high levels of industrial productivity have been maintained, leading to a sharp increase in service employment. The term 'information society' is now used more frequently to describe the same phenomenon. | Daniel Bell | Government of Australia (1991) |
| The 'information society' is a term that has been applied to western, developed nations where communications and computer technology have brought about a concentration of the workforce in the collection, processing and manipulation of data and the organisation and transformation of this into information and/or knowledge. | Government of Australia | Government of Australia (1991) |
| The term 'information society' or 'information economy' is often applied to countries in which a high and rising proportion of the labour force is employed in the collection, processing and manipulation of data, which is then organised and transformed into information and/or knowledge. Such countries include Japan, the United States, Great Britain, Canada, France, Germany, Italy, Sweden and Australia. | Government of Australia | Government of Australia (1991) |

| Definition of information society | Originator | Source |
|---|---|---|
| An information society is a society that is organised around knowledge for social control and directing innovation and change. | Daniel Bell | Jiyane et al. (2013) |
| An information society is a society in which the quality of life, as well as the prospects for social change and economic development, depends increasingly on information and its exploitation. | Martin | Jiyane et al. (2013) |
| The authors explain that in this society, there is a culture of knowledge production that is underpinned by a higher level of education with a focus not only on the use of modern ICTs, but also on content. | Jiyane et al. (2013) | Jiyane et al. (2013) |
| An information and knowledge society is a society that is reliant upon a sophisticated physical and ICT infrastructure for the improvement of everyday living and working conditions. This society values the importance of information as the key to economic wealth and prosperity, leading to an increase in information-related activities as well as an enhancement of intellectual capability. Information and knowledge ensure the freedom of information through the use of ICTs. | Holmner (2008:69) | Jiyane et al. (2013) |
| The information and knowledge society serves the cultural enrichment of all citizens through the diversity of content that reflects linguistic and cultural diversity. This is essentially the cultural criterion. The use of ICTs could support international exposure of the country because the exchange and sharing of information and knowledge pertaining to a country's culture, beliefs, norms, values and religions would take place easily. | Nassimbeni (1998:154) | Jiyane et al. (2013) |

| Definition of information society | Originator | Source |
|---|---|---|
| Information society is a society that uses digital revolution in ICTs for the free flow of information, ideas and knowledge through the internet, wireless technologies and libraries in order to "build a people-centred, inclusive and development-oriented Information Society, where everyone can create, access, utilize and share information and knowledge, enabling individuals, communities and peoples to achieve their full potential in promoting their sustainable development and improving their quality of life". | World Summit on Information Society in Geneva and Tunis (2005) | Ocholla (2014) |
| The information society is a society which makes extensive use of information networks (meaning systems of IT hardware and services which provide users with delivery and retrieval services in a given area, e.g. electronic mail, directories and video services) and IT (information technology, meaning the hardware, software and methods used for the automatic processing and transfer of data, and skills needed to use them), produces large quantities of information and communication products and services, and has a diversified content industry. | Nassimbeni (1998:154) citing McColgan of Finland's Council of State. | Ocholla (2014) |
| Knowledge societies are about capabilities to identify, produce, process, transform, disseminate and use information to build and apply knowledge for human development. | UNESCO "Towards Knowledge Societies" (2005). | Ocholla (2014) |
| The essential difference between an industrial society and an information society is that the locus of economic activity and technological change has shifted away from manufacturing "objects" towards handling information and symbols. The plough and farming techniques heralded the agricultural economy, engine and manufacturing techniques transformed first Europe and then the USA into an industrial economy; the computer and telecommunications are now propelling the USA into the information economy. | Porat | Porat (1978) |

| Definition of information society | Originator | Source |
|---|---|---|
| A networked society is a society where the key social structures and activities are organised around electronically processed information networks. So, it is not just about networks or social networks, because social networks have been very old forms of social organisation. It is about social networks which process and manage information using micro-electronic based technologies. | Manuel Castells | Ranchod (2008) |

Summarising all these definitions implies that an 'information society' can be said to encompass the following elements:

1. Access to information and knowledge is key and decisive in every aspect of life
2. ICTs are vital for informational activities[1]
3. The good things in life come about because of informational activities
4. The pervasiveness of informational activities covers a significant part of a society or a community, not just a small part
5. The more a country or community complies with these elements, the more it prospers economically and socially

Despite the dominant view of the information society bespeaking what is sometimes referred to as technological determinism by Nora and Minc in Duff (2004:71), Bell (Lyon 1986:578) and Feather (2013:201–203), the initial conceptualisation of the information society as expressed by Marshall Machlup, Peter Drucker, Yoneji Masuda and Marc Porat did not always put the importance of ICT on the foreground to such an extent. Other authors such as Nassimbeni (quoted in Jiyane et al. 2013) also emphasise the point that while ICTs are the instruments of undertaking informational activities and the conduits of information itself, they cannot be considered the essence of the information society. Considering this, an information society can thus be defined as a society or a community in which, for a significant

[1] Informational is used in the sense of relating to, involving or containing information (O'Conner & Kellerman 2012). Thus, the activities referred to could include identification, acquisition, storage, processing, retrieval, exchange, transmission, sharing and conversion information to knowledge, or any other activity related to information.

part, informational activities drive every aspect of life and contribute to the improvement of the lives of the people.

Some authors (Bahr 1990:259; Karvalics 2008:39) argue that the concept of an information society has been in existence since the 19th century or earlier. Some even go to the extent of pointing out that the concept of a society cannot be divorced from that of information, since a society is inherently constituted through the ability to communicate information (Pintér 2008:21–22). This does not change the reality that the academics and thinkers did not theorise about its pre-eminence in those societies from the same perspective as the current discourse (Pintér 2008:22). In other words, it has only been since the early sixties that researchers started to consider the society as information based.

Different authors approach what drives the success of the information society from many different angles. In the previous section of this chapter, the CSF and the e-readiness measurements, which this researcher considers as identifying some of the drivers for the success of the information society, have been discussed. Yoon and Chae (2009:26) identify other terminology utilised to refer to these drivers for the success of the information society. These terms include “strategic priorities”, “the prerequisites for success”, “guiding principles”, “success barriers”, “success indicators” and “strategic responses”. In addition to the different terminologies used to refer to this aspect, different authors had identified different criteria considered important for the success of the information society. Yoon and Chae (2009) identify 15 CSFs which operate differently for countries in different stages of development. For instance, their study found that privacy and security as well as monitoring and evaluation were not considered critical in developing and underdeveloped countries (Yoon & Chae 2009:30–31; 33). Another illustration of this point is the fact that there are multiple e-readiness measurement frameworks, which implies that they all have different assumptions or perspectives of what will realise the information society. The Harvard Readiness for the Networked World guide raised the following issues that would ensure success for building the information society in developing countries:

- The availability of affordable and quality ICT networks, services and equipment
- An educational system that integrates ICTs into its processes to improve learning. The availability or technical training programmes in the community that can train and prepare an ICT workforce
- The extent to which individuals use ICTs at work and in their personal lives. Increasing opportunities for those with ICT skills
- The use of ICT by businesses and governments to interact with the public and with each other
- The extent to which the policy environment promotes or hinders the growth of ICT adoption and use

(Center for International Development at Harvard University n.d.)

Although these categories identified above are not identical to the CSFs discussed earlier, they are not very different from them either. An example of the differences is that the CSFs include international cooperation, whereas it is not included in the above e-readiness criteria. Considering that the purpose of this study is to develop a theoretical framework for the building of the information society within the SADC based on the national ICT policies, it is only important at this stage, to highlight the type of issues that are considered key to driving the information society rather than exploring them in detail.

One of the key observations in understanding the information society and how it is achieved is the fact that there is a difference in the level of access to and usage of ICTs between and within countries. The differences between countries are typically between developed and developing countries. Within countries, the differences are among the different social groupings. These social grouping could be socio-economic status, geographic location, gender differences, educational achievement or racial differences (Epstein, Nisbet & Gillespie 2011:92). This difference has been labelled as the digital divide. The Organisation of Economic Co-operation and Development (OECD) has defined the digital divide as:

> the gap between individuals, households, businesses and geographic areas at different socio-economic levels with regard both to their opportunities to access information and communication technologies (ICTs) and to their use of the Internet for a wide variety of activities. The digital divide reflects various differences among and within countries. (Organisation for Economic Co-operation and Development 2001:5.)

The OECD's definition of the digital divide is supported by other authors, albeit in different words (Fong 2009:471; Hargittai 2003:824; The Economist Intelligence Unit 2013:11). For instance, the Economist Intelligence Unit (2013:11) defines the digital divide as "the unequal ability to access and use ICT", including "the applications and services that run over those networks" (The Economist Intelligence Unit 2013:11). Rather than considering access to or use of ICTs, there are other factors that other researchers consider, which include aspects such as quality of ICTs, autonomy to utilise ICTs, experience or skills related to ICTs (Hargittai 2003:823).

Although there are people, such as women or rural communities, who seem to be more disadvantaged in most countries, the unequal ability to access and use ICT within countries is experienced differently within different countries. The manifestation of the digital divide tends to have a negative effect on the following sectors within a country:

- Rural people as compared to urban people
- Women as compared to men
- Ethnic minorities (e.g. black people in parts of the USA) as compared to majorities
- Previously oppressed people (e.g. black people in South Africa) as compared to previously privileged people
- Older people as compared to younger people
- Those who speak English compared to those who do not
- People with disabilities compared to those without disabilities

- Less literate people as compared to more literate people
- People with lower income as opposed to people with higher income

(Baker & Coleman 2004; Dijk & Hacker 2003; Fuchs & Horak 2008; Hargittai 2003; Olatokun 2008; The Economist Intelligence Unit 2013.)

Another way of understanding the digital divide is a metaphor for the differences in the level of achieving an information society between countries and within a country. With regard to the former, there is an underlying assumption that in building an information society in a country, the gap between that country and those that are considered more advanced is reduced. In terms of this view, the building of an information society is synonymous with bridging the digital divide. The same logic is also applied to bridging the digital divide within a country. One can conduct a thought experiment which assumes that a country (country "A"), which, relative to other countries, is less digitally endowed and which, within its own border, also has a digital divide, maybe between the urban and the rural population. If country A implements programmes that focus on the rural population and exclude the urban population and in this way, closes the digital divide within its own borders, it does not follow that country A would have advanced towards an information society, in terms of the logic that was applied in terms of a country-to-country comparison.

The fact that developed countries are likely to have better access to ICT and use it more and, therefore, be more of an information society than developing or less developed countries, seems to suggest that if the digital divide between countries is closed, the differences in development will also be reduced. This view emanates from the perspective that seems to suggest that reducing the digital divide will automatically lead to development (Fong 2009). This view is correctly challenged by Nulens (2003) who correctly argues that the digital divide is a consequence of the development divide (Nulens 2003). The development divide refers to the gap in the level of development between countries generally referred to as the global north and the global south (Nulens 2003).

Whatever interpretation is adopted for the digital divide, it will have an impact on what is considered to be effective solutions or interventions. If, for instance, the

digital divide is defined in terms of a lack of access, the solution would be to increase access within the community that has relatively little access to ICTs (Epstein et al. 2011:93). It has been observed that over the years, the gap in access has been diminishing the digital divide; thus, the definition of the digital divide has also evolved. The Economist Intelligence Unit (2013) has noted that with the narrowing of the gap with respect to access to ICTs, the "quality of access—the speed—and the ability to use" (The Economist Intelligence Unit 2013:6) should take more of a centre stage.

The evolving definition of the digital divide still has the essential distinction for those who are fully able to utilise the ICTs of the day relative to those who are not able to do so. Since ICTs evolve and improve, is would not be surprising for the definition of the digital divide to follow suit. In supporting a similar view, Gunkel (2003:504–506) even moves further to challenge the binary understanding of the digital divide, arguing that this should rather be seen as a continuum. Although this approach makes sense, it does not seem to have caught up with most researchers.

Africa has seen increased access to ICTs through mobile technologies; however, there has not been an acceptable increase in access to the internet, particularly in the SADC. As recent as 2017, it has been argued that the SADC is not successfully bridging the digital divide and the main explanation for this failure is the affordability of internet access, service and internet-enabled devices within SADC countries (Mothobi, Chair & Rademan 2017). This lack of access to the internet has a direct negative impact on the achievement of the information society.

Having indicated that ICT is a key criterion for the information society and that what makes the information society desirable is the suggestion that it contributes to creating a better experience of life for people, it is therefore reasonable to conclude that the concepts of the information society and ICT for Development (ICT4D) are the same. However, the terms are typically used to emphasise different aspects of the same concept. What this researcher has observed is that the concept ICT4D is rarely used in relation to developed countries because, in the dominant development discourse, these countries do not seem to be in need of development. On the one hand, the concept of the information society has typically been utilised in relation to

both developed and developing countries (as can be seen in the WSIS documents (United Nations World Summit on the Information Society 2003, 2005a)). ICT4D is typically utilised for the so-called developing countries (Heeks 2010; Kleine & Unwin 2009). This then brings forth development as a concept of interest.

## 2.4 Development

A key element of the information society is its contribution towards development. For this reason, it is important to discuss and understand the concept of development and therefore this section will provide a working understanding of development.

Some authors discuss development without explicitly defining it, providing descriptions that depict it "as the movement towards a better and more just society" (Tungodden 2001:2), being "concerned with the achievement of a better life" (Sen 1988:15) or as "a process of expanding the real freedoms that people enjoy" (Sen 1999:3). There are other descriptions or definitions of development that are similar to the ones presented above and, therefore, no additional effort will be exerted to repeat them. These descriptions appear to be very broad and blurry, probably because the term 'development' is broad and therefore most attempts to define it are broad. Alampay (2006:10-11) argues that because development is a very value-laden term, any discussion of it is inherently controversial.

The understanding of development has evolved over time with different schools of thought dominating during different periods (Rapley 2007:1–6). Some approaches do not consider the pursuit of development as desirable, while others perceive it as unquestionably so (Rapley 2007; Rist 2002). Rist (2002) dedicates a full chapter of his book, *The History of Development: From Western Origins to Global Faith,* to the ways in which various scholars have attempted to define the concept 'development' (Rist 2002:8–24). In the main, Rist's definition of development rests on a critique of what he refers to as a western myth based on beliefs and practices that are contradictory. A closer reading of Rist suggests that despite his objection to the desirability of development, he acknowledges the common understanding of development as a generic term for the "practices designed to increase human well-being" (Rist 2002:25).

Because the inaugural speech of American President Harry S. Truman in 1949 aligned development and technological progress, this is sometimes considered as the starting point of the development project in modern times (Kleine & Unwin 2009:1051). From its inception and with the adoption of the United Nations Charter in 1945, the United Nations has seen itself as a champion of development. This conclusion is based on the fact that the United Nations Economic and Social Council (ECOSOC) (established in 1945 as one of the six main organs of the United Nations through the United Nations Charter) did not initially use the word 'development' in its founding documents, whereas it is the coordinating centre for sustainable development (United Nations 1945, 2016). Significantly, the Millennium Summit of the UN endorsed ECOSOC's position as a leader and coordinator of the efforts to achieve development for the world when it set the eight Millennium Development Goals (MDGs) which were to be achieved by 2015. When the timeframe for achieving the MDGs ended in 2015, the UN adopted the *Agenda for Sustainable Development,* which outlined 17 Sustainable Development Goals (SDGs) and targets to be achieved by 2030 (United Nations 2015).

Alampay (2006:10–11) outlines a perspective of development, which describes development as providing material and services (such as access to clean water, food, and shelter) that satisfy the need of people to survive. It is this perspective that justifies the view that economic growth should be an appropriate measure of development. However, the use of economic growth to measure development poses its own challenges. For instance, economic growth does not imply that the increased economic resources are distributed to the people in such a manner that they meet their needs (Alampay 2006:11).

Other views have been presented to address these challenges. For instance, the United Nations Development Programme (UNDP) (2001:9) contends that while economic growth is an important means of enlarging people's choices, the essence of development is that it enables people to "lead long and healthy lives, to be knowledgeable, to have access to the resources needed for a decent standard of living and to be able to participate in the life of the community" (United Nations Development Programme 2001:9). Sen (1999) argues that the expansion of

freedom is both the end and the means of development. In arguing that the goal of development is to attain human freedom (Alampay 2006:11; United Nations Development Programme 2001:9), it becomes self-evident that economic growth or the achievement of wealth is not sufficient for understanding or achieving development. After the Second World War, development was considered equitable to industrialisation with the goal of providing poorer people with access to goods and services like those in the countries that were classified as 'developed'. It was considered that this led to what is considered as 'a better life' (Rapley 2007:1–2).

Despite the fact that the concept of development could still be problematic, there is a requirement for society to continue to strive towards achieving it without waiting for complete consensus (Sen 1988:23). This researcher accepts the view that development is essentially about enhancing the quality of life and living conditions (Sen 1988:11–13) and therefore it is not surprising that the quantification of this quality of life remains elusive. Sen (1988) argues successfully that economic growth is not the only factor that influences living conditions and the quality of life. He particularly advances the view that there are many other factors that influence living conditions (and by implication development). These factors include life expectancy, freedom from avoidable morbidity, the prevalence of crime and violence, and the ability to do certain things and be in a certain state (Sen 1988:13–16). The attainment of an information society within a country should be considered as one of those factors that has a positive impact on development.

## 2.5 The information society and development

This section will explore the nexus between information society and development. It should provide a clear exposition of why the implementation of the information society is important for society. The importance of information is revealed in the following anecdote: "It took six months for the news of the end of slavery to reach some areas in the US. In this instance, the enslaved blacks in Galveston, Texas, were only notified in June 1865 that the Emancipation Proclamation of 1863 abolished slavery and of the ratification of the 13th Amendment in January 1865" (Adams-means 2006:11). It is clear from this extreme case that the technology for the communication of information is important for the wellbeing of people.

World leaders accept it as a fact that ICTs and, consequently, the information society are essential and at the very least do contribute towards development. This is epitomised by the speech of the former United Nations Secretary, Kofi Annan, to the World Bank conference on 23 June 1997 in which he stated that "[c]ommunications and information technology has enormous potential, especially for developing countries, and in furthering sustainable development. … [I]nformation and knowledge … are the conditions for development" (Annan 1997). In the above-quoted speech, Annan emphasised that these views were not just his, but those of the United Nations system. Therefore, it is not surprising that the World Summit on the Information Society was organised, and, among others, decisions were made to the effect that countries should develop and implement information society strategies or e-strategies.

The Millennium Declaration of the United Nations, which absorbed into its text the Ministerial Declaration of the High-level Segment Submitted by the President of the Council for the year 2000 titled *Development and international cooperation in the twenty-first century: the role of information technology in the context of a knowledge-based global economy*, is one of the United Nations' documents that strongly links ICTs and development (United Nations 2000b, 2000a). Following on these documents, the United Nations adopted the eight MDGs highlighted above. Goal eight, "Develop a global partnership for development", had as one of its targets that "[i]n cooperation with the private sector" countries should "make available benefits of new technologies, especially information and communications". The SDGs which were adopted at the 70$^{th}$ Session of the United Nations General Assembly as a follow-on to the MDGs, make more direct reference to ICTs in the context of development (United Nations 2015). All these indicate the entrenched role and importance of ICTs in supporting development as perceived by world leaders.

As opposed to the MDGs, the SDGs as presented in the *Agenda for Sustainable Development* make more direct reference to the importance and relevance of ICT for development as outlined below:

- Goal 4, which aims to ensure "inclusive and equitable quality education and promote lifelong learning opportunities for all", specifically targets that by

2020, there should be a substantial expansion of scholarships for information and communications technology (among other fields) in developed countries and developing countries, in particular, to the least developed countries and the small islands of developing states and African countries.

- Goal 5, which aims to achieve gender equality and empower all women and girls, will be enhanced through the use of information and communications technology.
- Goal 9, which aims to build “resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation”, targets significantly increased access to information and communications technology and provision of universal and affordable access to the internet in the least developed countries by 2020.
- Goal 17, which identifies different areas to “[s]trengthen the means of implementation and revitalize the Global Partnership for Sustainable Development”, lists technology as one of those areas. It particularly emphasises the need to make the proposed technology bank, as well as the science, technology and innovation capacity-building mechanism fully operational by 2017 for the least developed countries. This will be achieved by enhancing the use of enabling technology, in particular information and communications technology.

With the adoption of the *Agenda for Sustainable Development,* more emphasis is placed on the integrated nature of development that is inclusive of the information society. This document emphasises this by stating that the SDGs are “integrated and indivisible and balance the three dimensions of sustainable development: the economic, social and environmental”. In relation to ICTs, it states that its spread “has great potential to accelerate human progress” (United Nations 2015:Preamble & Paragraph 15). This further highlights the interconnectedness of development and the information society.

Jiyane et al. (2013:2–3) seem to be arguing that an economic criterion and its indicators such as GDP should indicate whether or not a county is part of the information and knowledge society. It seems logical that this is not coherent, as the

key element of such a society is the connection between ICT (or information) and economic growth, rather than the economic criteria on their own. To determine whether or not a country is part of the information and knowledge society, the question should not be whether people use ICTs or whether they can access the "Internet and browse for jobs that are available in their own country and in other countries", or even whether ICTs can lead to economic prosperity. Instead, it should centre on the extent to which all these situations are prevailing in a particular country or community.

Many initiatives to build an information society for development are based on pilot projects that aim to show that a particular approach can work. However, the challenge has been the lack of scalability to implement these projects on a larger scale for the benefit of the broader community (Kleine & Unwin 2009:1059–1060). The adoption and implementation of national policies and strategies to underpin the information society could perhaps be the remedy for this challenge and make these interventions more sustainable.

### 2.6 Information society development policies

In referring to national ICT policies and policymaking, reference is often made to national information society policies. While often not explicitly stated, it is clear that national ICT policies, national information society policies and e-strategies refer to one and the same thing and are all aimed at contributing towards development. (Labelle 2005:29–36). The WSIS outcome documents such as the Geneva Declaration of Principles, the Geneva Plan of Action, the Tunis Commitment and the Tunis Agenda for the Information Society highlight the need for countries to develop "national e-strategies, including ICT strategies and sectoral e-strategies, as appropriate, as an integral part of national development plans and poverty reduction strategies, as soon as possible and before 2010" (UNESCO Information for All Programme 2009:5).

The recommendation that countries aspiring to be information societies should prioritise national e-strategies equivalent to national ICT policies or information society policies does not only emanate from UN documents (Rao 2003:22). Odhiambo argues that countries should develop national ICT policies that assist

them in achieving their national development goals and participating in the global information society. Rwanda is cited as a successful example while, at the same time, the lack of coordination, sufficient consultation and failure to address all the relevant aspects that some of the national ICT policies exhibit are also highlighted (Odhiambo 2008). The publication of books on information society strategies of certain countries around the beginning of the current century could be seen as a marker for the importance of ICTs (Rao 2003:4). The roots of policies of developing countries dealing with media and telecommunications could be found in the decades before the 1970s, whereas documents referred to national ICT strategies began appearing in the 1990s and the 2000s (Heeks, Gao & Ospina 2010).

This study is not the first to encounter the challenge as to what should be considered a policy, especially since the words ‘policy’, ‘strategy’, ‘plan’ and ‘programme’ tend to overlap in meaning (Hill 1989:3). In addition, a policy can be explicit or implicit and can range from laws, to press releases, to anything in between (Hill 1989:5; 43). For this reason, this research adopts a pragmatic approach and includes documents labelled as policy, strategy, plan or anything similar. The scope of information policies is very wide (Hill 1989:7) and may sometimes include aspects (for example, information technology or telecommunications) that are undoubtedly considered the domain of information society policies (Hill 1989:29–31). Based on the work of the World Bank, Yoon and Chae (2009) present an e-strategy pyramid that includes policy in its apex, see Figure 2-3.

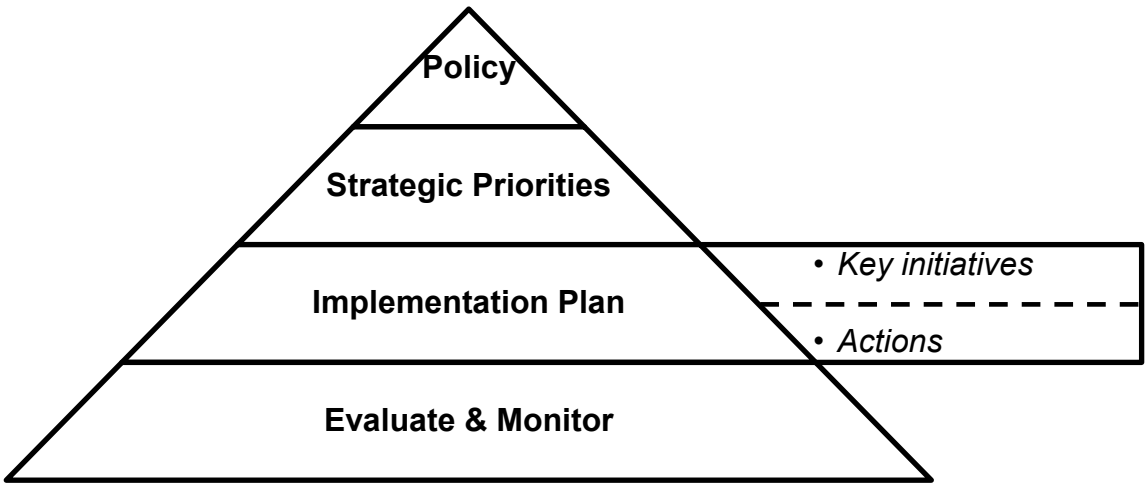



Figure 2-3: E-strategy pyramid

Source: (Adapted from Yoon & Chae 2009:26)

The e-strategy pyramid that is outlined in Figure 2-3 illustrates that an e-strategy would normally have several components. As discussed above, different countries utilise different naming conventions to refer to documents that address the elements of the pyramid. It is possible that a single document could address all or a combination of selected components in the pyramid. The national ICT policies that are the subject of the current study focus on the two highest rungs of the pyramid. These cover the policy and the strategic priorities for a country which have to be covered by an e-strategy as outlined in the WSIS Plan of Action. It is noted, however, that all these are interrelated (Yoon & Chae 2009:26).

Japan was one of the first countries to develop a national plan aimed at building an information society (Duff 2004:72; Lyon 1986:580). This has set a trend. A 1998 report for the UN Commission on Science and Technology for Development (UNCSTD) argued that countries should develop national ICT strategies that would ensure that countries take advantage of the benefits and manage the negative impact of ICT in their respective countries (Kleine & Unwin 2009:1048). Heeks et al. (2010) mention four main issues that contribute to the failure of ICT policies to contribute to development as expected. Firstly, this could be attributed to the lack of coherence between the policies and the big developmental challenges that the countries are facing. Secondly, another cause could be the poor or lacking coherence with the ICTs for development value chain. This value chain outlines the manner in which the digital technologies are expected to contribute towards development. Thirdly, poor coherence with development policy may be a factor. In this regard, for example, ICT policy could refer to development, whereas ICTs do not form part of development policies. Vaughan (2006) argues that ICT policies should be based on and should follow on broader development policies. Lastly, they mention the manner in which the policy is implemented, the key role players, as well as how the policy is implemented – a concept they refer to as delivering ICT policy coherence (Heeks et al. 2010). In its Ministerial Declaration of the High-level Segment Submitted by the President of the Council, the ECOSOC specifically states that market forces were not sufficient for ICTs to contribute towards development; the meeting specifically argued that national development strategies were required for the achievement of this goal (United Nations 2000a:paragraphs 12 and 14).

## 2.7 Connecting the concepts

This section brings together the key concepts that are relevant to this research and the information provided above so as to construct a framework that outlines how these concepts relate to each other. The approach of developing concept maps, also referred to as a conceptual framework or integrative diagram, has been presented by Maxwell (2013:54) as an effective mechanism to visually display a theory or how concepts relate to each other (Burian et al. 2010:50). This is graphically presented in Figure 2-4, which outlines how these concepts interact with each other.

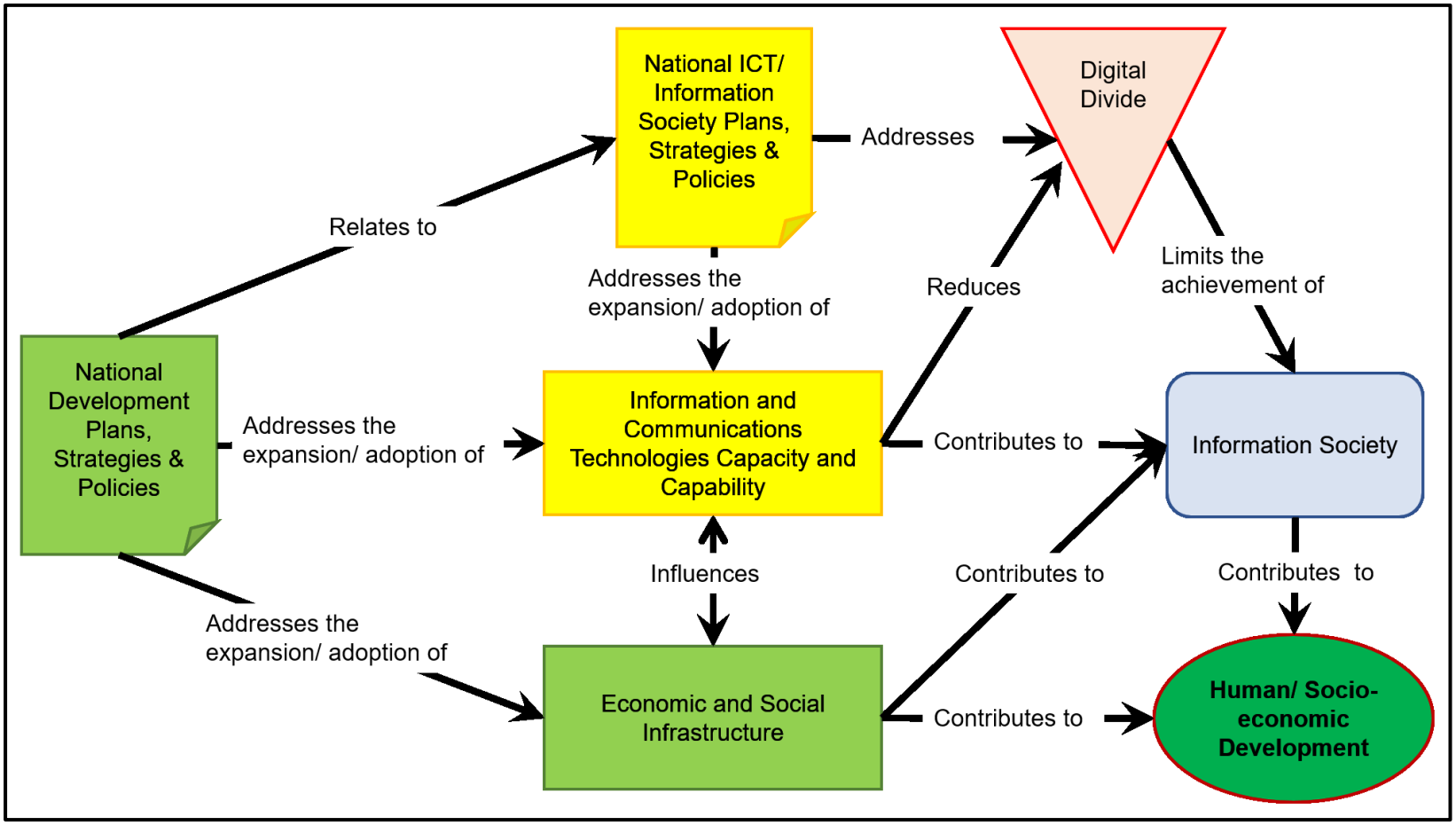



Figure 2-4: Conceptual Framework

Source: Researcher's own synthesis

Without becoming too ensnared in the intricacies of what constitutes a theory, I commence by presenting the definition of Babbie (2014:9) of theory as “a systematic explanation for the observations that relate to a particular subject in life”, the aim of which is to find patterns in social life. This definition of theory can easily be joined with that proffered by Maxwell (2013:49), which essentially states that the simplest form of a theory is the connection of at least two concepts by a proposed relationship. Linking the former definition with the latter addresses the explanatory role of theories and identifies the key components of the theory. Both of these aspects are addressed by Ngulube et al. (2015:45–46). Within the context of this study, a theory is a proposition of some relationship between one or more concepts to explain a phenomenon.

Wade, in his foreword to the book, *Reclaiming Development: An Alternative Policy Manual*, states that Albert Einstein once remarked to Werner Heisenberg that “[w]hether you observe a thing or not depends on the theory you use. It is theory ‘which decides what can be observed’” (quoted in Chang & Grabel 2014:xiv). This assertion strengthens the comment on the role of theory in picking up rocks attributed to William James mentioned in Section 2.2 above, both of which emphasise the importance of theory in academic practice.

Despite the circular nature of scientific inquiries as outlined in Figure 2-5, specific research projects could adopt either an inductive or deductive reasoning approach (Shields & Rangarajan 2013:28).

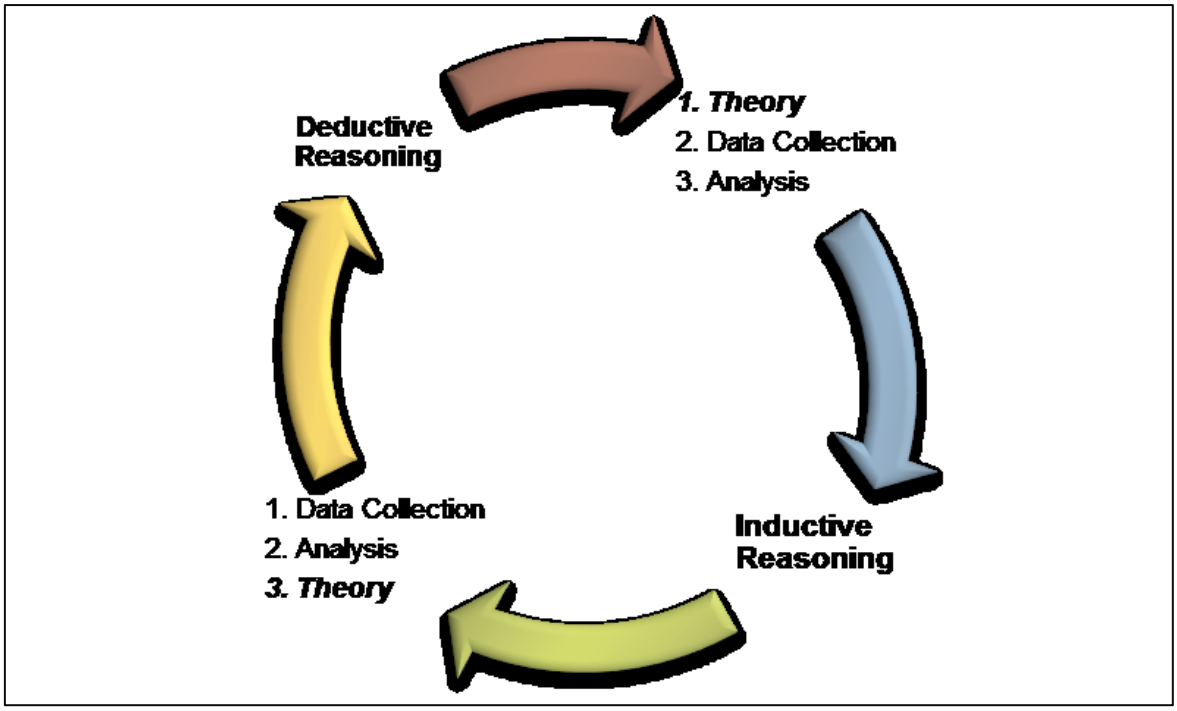



Figure 2-5: Theory in the inductive/deductive research cycle
Source: (Shields & Rangarajan 2013:28)

In terms of this model for deductive reasoning, one commences with a theory. Based on that theory, data is collected and then analysed to confirm the theory. This could lead to an inductive process whereby data is collected and analysed in order to form a theory. This circular process could start at the inductive reasoning point. This frame of reference does not fully accommodate abductive reasoning as utilised in mixed methods research whereby the arrows could point in both directions. In this form of reasoning, the researcher alternates between deductive reasoning and inductive reasoning until the objective of the research is reached (Feilzer 2010:10; Morgan 2007:71).

Browne (1997a:268) states that the use of "[p]olicy as theory or model ... involves assumptions about what governments can do and what the consequences of their actions will be. ... The assumptions are rarely spelled out, but policies nevertheless imply a theory, or model, of cause and effect". It is the extraction of this theory or model that this research is aimed at achieving. The next chapter outlines how this will be achieved.

## 2.8 Chapter Two summary

In this chapter, this researcher clarified the choice of presenting a conceptual framework rather than a theoretical or practical framework to help guide the research. The chapter then reviewed the literature highlighting studies that have some relation to the current study, while noting that the scope of none of these studies fully addressed the objectives or the research questions that this study aims to respond to.

Furthermore, the chapter presented a literature map that outlined the key concepts necessary to be explored in order to respond to the research questions. The literature referred to in the map addressed pertinent issues related to the information society, development, information society for development, as well as policies related to the information society for development.

The chapter proposed a conceptual framework outlining how the development and national ICT policies related to each other to achieve development based on an analysis of the literature discussed. It concludes by outlining the role of theory in the research cycle and how theory for building the information society is embedded in the policies.

# CHAPTER THREE: RESEARCH METHODOLOGY

## 3.1 Introduction

In Chapter Two, this study mapped the literature relevant for this research and connected all the key concepts into a conceptual framework. This chapter discusses the different aspects of the research methodology to lay the foundation for collecting and analysing the data to extract the findings required to achieve the objectives of the research as outlined in Section 1.6 in Chapter One. These research methodological aspects were discussed in a sequential logic from the most abstract theoretical perspective to the most practical activities related to the research as shown in the map of the research methodology in Figure 3-1.

The research paradigm is discussed in Section 3.2, whereby the philosophical assumptions of this researcher are outlined alongside the relevant ontology, epistemology and methodology as applicable to the research based on the nature of the problem. This researcher's paradigm for this study is constructivist/ interpretivist, emanating from a relativist ontology, a subjectivist epistemology and a qualitative methodology.

In Section 3.3, the grounded theory design adopted for the research is described. The way in which the design was applied in this study to respond to the research questions is also discussed. Following that, Section 3.4 discusses the population and the data sources for this study as well as the sampling and the data collection instruments utilised, the research methods utilised as well as the data collection and analysis procedures.

Section 3.7 discusses the rigour which predominantly relates to the validity and reliability of a study. Following this, the chapter is rounded off with a discussion of ethical considerations and an evaluation of the research methodology.

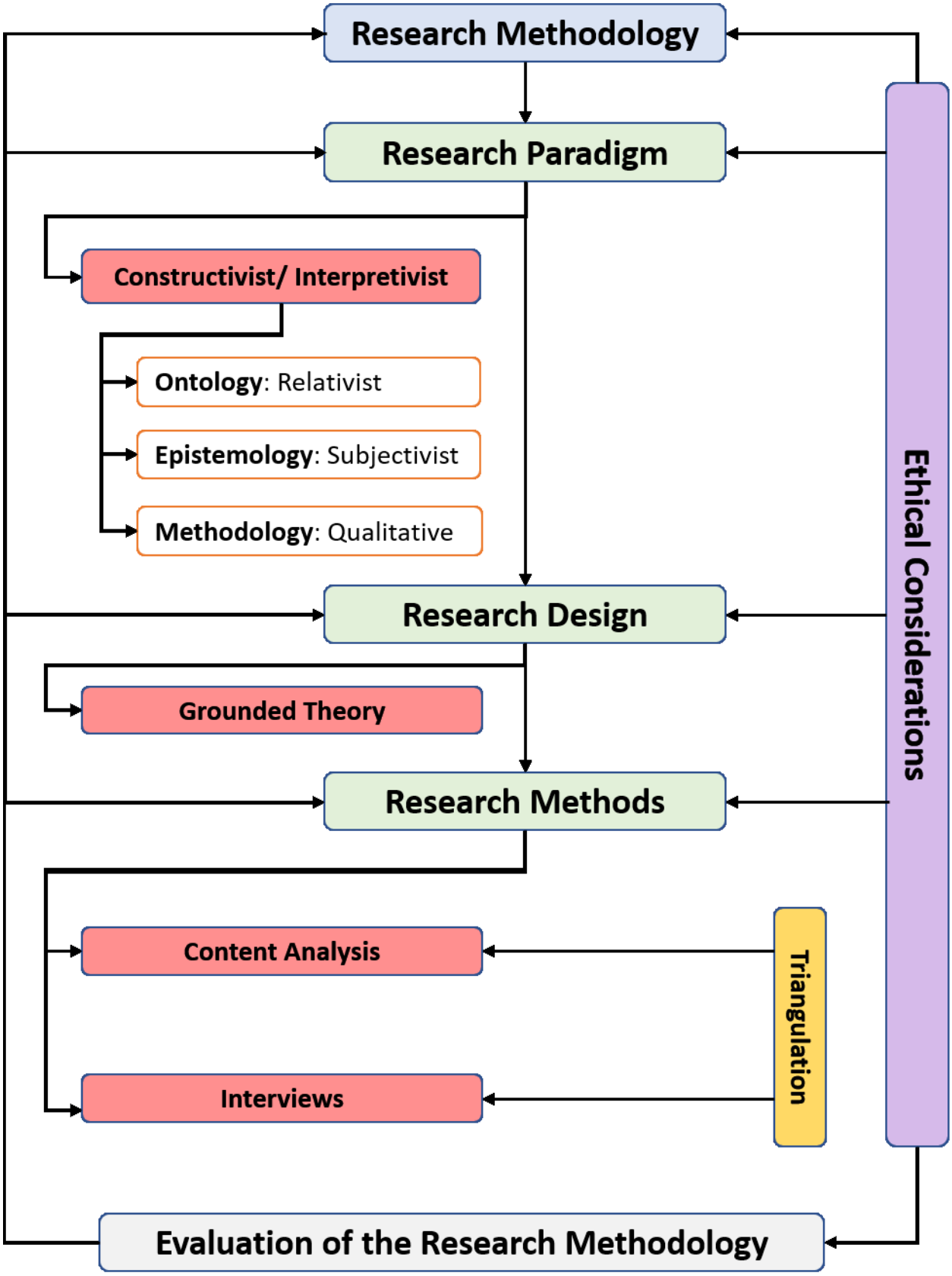



Figure 3-1: Map of the research methodology

## 3.2 Philosophical backdrop of the methodology

How different researchers look at the world and how they believe the world can be understood are at the core of understanding the choices made by researchers in conducting research. In the language of social research, these broad philosophical and theoretical traditions are referred to as research paradigms or simply as paradigms (Blaikie 2007:3; 12). Guba and Lincoln (1994:105) define a paradigm "as the basic belief system or worldview that guides the investigator, not only in choices of method but in ontologically and epistemologically fundamental ways." Paradigms have similar characteristics as beliefs or culture, and thus no paradigm is better than another; it is merely the way someone else views the world – a philosophical point of departure (Annells 1996:383; Babbie 2014:32–33; Durrheim 2006:40; Guba & Lincoln 1994:107; Scotland 2012:9).

It is important to understand the philosophical point of departure of the researcher to understand any research output (Díaz Andrade 2009:43). Making the philosophical worldviews or assumptions explicit would enable the reader to determine why the researcher chose the specific design or approach for the research and to evaluate the research itself (Creswell 2014:6). Furthermore, since the philosophical assumptions and beliefs are embedded in the research methodology and underpins everything with regard to how the research is conceived, executed and reported on, making these explicit, it leads to research that is "ethical, logical, truthful, and cohesive – earmarks of good scholarship" (Guba & Lincoln 1994:116; Nathaniel 2012:187).

Table 3-1 provides an overview of the various concepts utilised in building a research methodology. Although this is sufficient for discussing the current research, it is not exhaustive.

Table 3-1: Key concepts in building a research methodology

| Term | Description/Definition | Examples | Sources |
|---|---|---|---|
| Paradigm | A basic set of beliefs that should be accepted as true without having to be proven. These beliefs address ontology, epistemology and methodology. (Sometimes referred to as philosophical worldviews) | Positivism, post-positivism, interpretive, pragmatism, transformative, and critical theories | (Creswell 2014:6–11; Guba & Lincoln 1994:105; Leedy & Ormrod 2015:25–26) |
| Research type | Addresses the type of conclusion the researcher aims to draw or the purpose of a particular research. | Explanatory, descriptive, exploratory/ applied vs basic/ quantitative vs qualitative | (Babbie 2014:94; Durrheim 2006:44–46) |
| Methodology | Research methodology and data are interwoven; the type of data sort of defines the methodology. Sometimes the terms research strategies, research designs and research methodology are utilised interchangeably. A research methodology may utilise one or more methods. (The term 'methodology' is more frequently used to refer to the study of research designs or the study of methodological concepts). (This is sometimes referred to as research methodology, methodological approach or research paradigm). | Qualitative, quantitative, mixed methods | (Chu 2015:36; Creswell 2014:3–4; Durrheim 2006:47; Leedy & Ormrod 2015:98–100) |

| Term | Description/Definition | Examples | Sources |
|---|---|---|---|
| Research design | A specific approach to data collection, analysis and interpretation. (Sometimes referred to as research approach, research methods or research strategies). | Survey, case study, narrative research, phenomenology, ethnography, grounded theory | (Creswell 2014:11–16; Wagner, Botha & Mentz 2012:21–23) |
| **Methods** | | | |
| Sampling | How the data that will be studied is selected. (Sometimes referred to as sampling procedures). | Random representative, convenience, purposive, theoretical | (Durrheim 2006:48–50) |
| Data Collection | How the data that will be studied is collected. (Sometimes referred to as data collection procedures). | Interview, document analysis, observation, measurement | (Creswell 2014:189–193; Durrheim 2006:48–52) |
| Analysis | How the data that has been collected is analysed and interpreted. (Sometimes referred to as data analysis procedures). | Statistical analysis, identifying themes (categorisation), coding, text and image analysis, document analysis | (Creswell 2014:194–201; Kelly 2006; Leedy & Ormrod 2015:309–315) |

A philosophical point of view is expected to answer questions such as, “How does the researcher define reality or the truth?”, “What is the relationship between the researcher and what is being researched?”, “How can the researcher find the truth?” These questions are referred to as the ontological, the epistemological and the methodological questions (Guba & Lincoln 1994:108).

In agreeing with Guba and Lincoln (1994:108), Annells (1996:383) identifies positivism, post-positivism, critical theory and others, as well as constructivism as the four basic research paradigms. She further notes that some authors such as Denzin and Lincoln (quoted in Annells 1996:383) have combined the constructivist and interpretive approaches, whereas others such as Schwandt (quoted in Annells 1996:383), have split these categories. Figure 3-2 provides a selected model for the key paradigms or philosophical outlooks by integrating the views of some authors

(Guba & Lincoln 1994:109; Morgan 2007:65). Different authors group the paradigm differently and thus it was important to pick one model to use as a point of reference. The model presented below was primarily based on Guba and Lincoln (1994) and merged with Morgan (2007:65–7). Morgan's work was introduced to account for pragmatism, which Guba and Lincoln (1994) do not address. The pragmatic approach, as Morgan (2007:65) would prefer, does not fit into the framework presented by Guba and Lincoln (1994), but it was included as part of the model to render the discussion easy to follow.

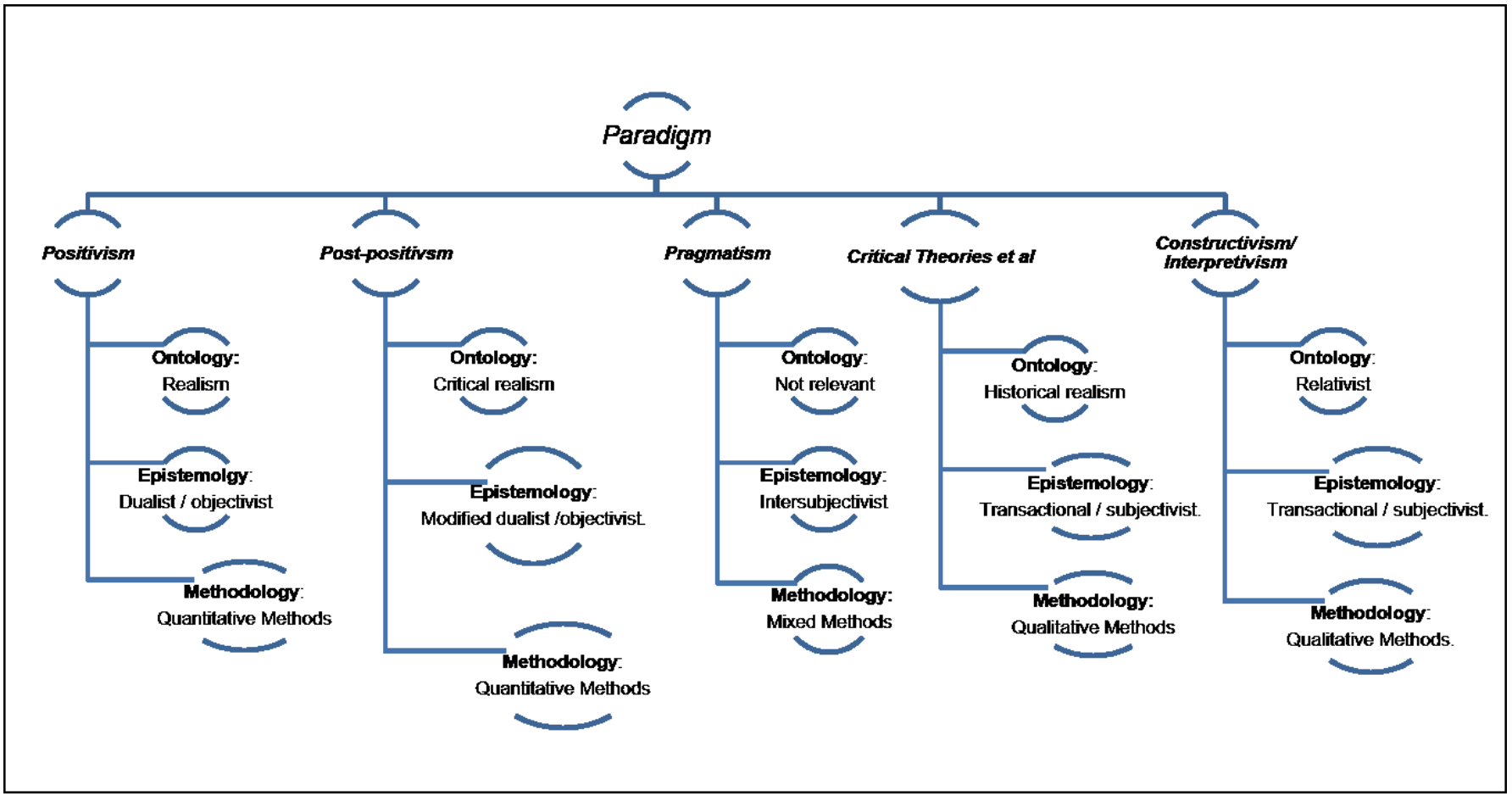



Figure 3-2: Selected research paradigms

Source: (Guba & Lincoln 1994:109; Morgan 2007:65)

This researcher chose the model in Figure 3-2 as a basis for discussing research paradigms. This model includes more paradigms than the model preferred by Ngulube (2015b:128), which presents only three paradigms: realism/positivism, pluralism/pragmatism and constructivism/interpretivism. Despite presenting more paradigms than those of Ngulube (2015b:128), the selected model is still simpler than other approaches that present many more paradigms; for instance, Blaikie (2007:27) presents ten paradigms. This discrepancy raised the question as to who labels and defines what is considered paradigms within the social sciences (Morgan 2007:60). This researcher has not attempted to resolve this in this study.

This lack of consensus about paradigms is not only illustrated by the number of paradigms, but also by how these are interpreted. For instance, Ngulube (2015b:127) argues that since critical theories have a relativist ontology, they should be considered an inherent part of interpretivism. On the other hand, one of the key arguments comes from Morgan (2007), who notes the challenges created by the overlap between paradigms such as constructivism and critical theory, and believes these could be resolved by ditching the over-emphasis on ontological issues over methodological issues. The approach that the determination of a paradigm should be based on the similarity in ontology, may have the unintended outcome that, should one determine an ontology, the epistemology and methodology would follow without any further mental application (Chilisa & Kawulich 2012:54). The view held by this researcher, based on his is ontological assumptions, was that there are multiple socially constructed realities and that these social constructions of reality are probably influenced by specific academic communities to construct or understand paradigms. As a result, multiple classification of paradigms is acceptable if any of such a classifications were internally consistent. Despite the different paradigms ending up with the same methodology, the fact that they have different ontologies or epistemologies will have a different nuance on how the methodology is applied.

The key concepts that this researcher considered useful for distinguishing or describing paradigms are ontology, epistemology, methodology and methods as noted in Figure 3-2. These concepts explain the key characteristics of the different

paradigms. It should be noted that there are strong arguments against this approach to understanding the core issues around social science research methodology. One of these critiques presented by Morgan (2007) is that the dominant approach/paradigm, which Guba and Lincoln (1994) also present, has major flaws that lead to it not being able to accommodate pragmatism as a valid paradigm. Notwithstanding this significant flaw of the dominant approach, this research has brought together those two approaches as depicted in Figure 3-2 for the purpose of convenience. Furthermore, this researcher has also flagged the key characteristics of the different attributes of the paradigms.

Paradigms distinguish themselves along three dimensions. These dimensions are ontology, epistemology and methodology (Hanson, Creswell, Plano Clark, Petska & Creswell 2005:225; Terre Blanche & Durrheim 2006:6). Other research includes axiology, which relates to the role of values, as another dimension of a paradigm (Hanson et al. 2005:225; Morgan 2007:58). Ontology concerns itself with the nature of reality and answers questions such as “Do things exist?” and “if they exist, in what way do they exist?” Epistemology relates to how people come to know what exists, that is the relationship between the observer/knower and what can be known, and methodology articulates how research is done and the mechanisms of undertaking research (Hanson et al. 2005:225; Terre Blanche & Durrheim 2006:6).

While not stating explicitly that their philosophical approach is pragmatism, Herbert and Higgs (2004:63) argue that both the quantitative and qualitative paradigms can contribute valuable scientific knowledge. Their primary argument is that it is the nature of the research that should determine the paradigm to be adopted (Herbert & Higgs 2004:63–61). In other words, it is quite feasible and desirable from their philosophical point of view that a researcher can adopt either a qualitative or a quantitative paradigm, depending on the nature of the research question. It seems self-evident that the research questions asked, consciously or subconsciously, dependent on the philosophical outlook of the researcher. According to Mackenzie and Knipe (2006), the pragmatic paradigm has no philosophical loyalty and may employ qualitative ***and/or*** [my emphasis] quantitative methods and “***may*** [my emphasis] include tools from both positivist and interpretivist paradigms.” (Mackenzie & Knipe 2006). In other words, a researcher from a pragmatic paradigm

is not limited in terms of what research question he or she could ask and therefore the researcher could raise questions that may require qualitative, quantitative or both methods to address.

As stated in Chapter One, the aim of this study was to identify or develop a theoretical basis or framework upon which African and, more specifically, SADC countries can successfully build an information society. The grounded theory method, a method for generating a theory from the data rather than validating a theory with the data, could be utilised to generate this theoretical framework or theory (Urquhart 2013:8). Section 3.3 on page 81 discusses this aspect further. There is a view that grounded theory is a research methodology as well as a research method (Birks & Mills 2011:4–5). The philosophical basis of grounded theory has been debated by various researchers (Age 2011). According to other authors, there are different possible approaches to executing grounded theory which researchers may choose from (Birks & Mills 2011:8) and therefore it is important to justify the mode which a researcher chooses. Section 23.6.1 outlines the approach and procedures for implementing grounded theory selected by this researcher for this study. The article by Eaves (2001) focuses on the view that there was no single way of using grounded theory and that it was important for researchers to justify their specific approach to grounded theory.

It was a challenge for this researcher to place grounded theory within the different philosophical paradigms. Age (2011:1599) and Nathaniel (2012:192) cite different researchers who have labelled grounded theory as positivist, interpretive or pragmatic in philosophical outlook. In fact, some authors strongly assert that Barney Glaser, one of the founders of grounded theory, had claimed that this research method was pragmatic and went beyond the philosophical approaches (Age 2011:1599; Nathaniel 2012:189). In supporting this view, Charmaz emphasises that Barney Glaser has argued “that quantitative researchers could adopt grounded theory methods” (Charmaz 2012:181). It was considered necessary to provide a short exposition of the various approaches to grounded theory.

The idea that a theory could emerge from the data does in itself suggest a particular philosophical approach. In essence, it states that there could be an objective reality

inherent in certain contexts waiting to be discovered. Therefore, grounded theory is consistent with the "empiricism" as is sometimes argued. As outlined by Eaves (2001:655), the process and products of grounded theory are not shaped by the subjective conditions of the researcher, but are derived from the data. In trying to find the philosophical roots of grounded theory, Age (2011:1612) concludes that, in some respects, Glaserian grounded theory has an affinity for positivism. With regard to the objectives and the manner in which research is undertaken, Eaves argues that Glaserian grounded theory is pragmatic and for that reason may be utilised by people from the different philosophical and research traditions (Age 2011:1612–1613; Díaz Andrade 2009:46). Mills, Bonner and Francis (2006) argue that Strauss and Corbin's version of grounded theory should be classified as relativist pragmatist.

A view advocated by Díaz Andrade (2009:42, 48) is that grounded theory has evolved from being positivist to being interpretivist. According to Díaz Andrade (2009:44), "interpretive researchers do not recognise the existence of an objective world. On the contrary, they see the world strongly bounded by particular time and specific context," meaning subjective. This view is shared by Strauss and Corbin (1994:22) and aptly quoted by Annells (1996:386) who emphasises a relativist-constructivist understanding of grounded theory as currently practised. In the same vein, Annells (1996:379) presents grounded theory as evolving towards being constructivist and then post-modern. This conclusion seems to be different from the well-known schism (Kenny & Fourie 2014:4–5) in grounded theory between Strauss, Glaser and Charmaz, rather than an evolution of the very same approach. Probably a better way of explaining this "evolution" is the accommodation of different philosophical approaches through the different versions of grounded theory. The fact that there are researchers who still practice the classic grounded theory (Glaserian) in its post-positivist flavour attests to this assertion (Giske & Artinian 2007). The hype of their activity is demonstrated in an international peer-reviewed journal, *Grounded Theory Review*[2].

[2] This journal is available online at http://groundedtheoryreview.com/

Annells (1996:385) describes the ontological roots of classical grounded theory as rooted in the Mead-Blumer pragmatist view and leaning towards critical realism. The founders of grounded theory, Barney Glaser and Anselm Strauss, have indicated that once a grounded theory is generated, other methods such as experiments, or surveys could be conducted to verify the generated theory. Therefore, based on the statement by Annells (1996:387–388), it seems reasonable to argue that one can utilise grounded theory without being wedded to a specific philosophical paradigm. These sequential research projects could be construed in the same manner as would be done with the mixed methods research approach.

The philosophical perspective of this researcher tends to gravitate towards pragmatism; however, this study was more inclined towards the constructivist (ontology) / interpretivist (epistemology) paradigm. To arrive at this conclusion, one had to answer what Annells (1996:383) refers to as ontological, epistemological and methodological questions of Guba and Lincoln. In framing the answers to these questions, this researcher was of the view that in building this theory, the reality was not objective, as he was very much part of the constructing of this reality through his interpretation of the data to create new knowledge (Annells 1996:385).

### 3.3 Research design

A research design is a plan that guides the researcher in collecting and analysing the data in such a manner that it responds to the research questions posed. The design provides a plan and procedures applicable to the research. The design also includes how data will be collected, analysed and interpreted (Regan n.d.). The philosophical assumptions held by this researcher informed all these aspects. Hence, it was important to commence by discussing these philosophical assumptions (Creswell 2014:6; Durrheim 2006:34).

Durrheim (2006:37) argues that in order to construct or develop an appropriate research design, the researcher has to consider “(1) the purpose of the research, (2) the theoretical paradigm informing the research, (3) the context or situation within which the research is carried out, and (4) research techniques employed to collect and analyse data.” In Chapter One, this researcher outlined the purpose of this research as being to generate a grounded theory for building an information society,

while in Chapter Two, he provided the context of the research. This chapter discusses the paradigm applicable to the research design, the methodology / methodological approach, the research methods / strategies and the techniques that are employed to collect and analyse the data.

Fundamentally, this study aimed to unearth the theoretical foundations of the information society policies adopted by the SADC countries, essentially to develop a theory. The analysis of the national ICT policies of the selected SADC countries as indicated in Section 2.6 (Table 1-5) helped to unearth the theory.

As stated earlier in Table 3-1, the methodology of a research could be quantitative, qualitative or mixed methods. This distinction provides an explanation of what type of data or information researchers collect, ***analyse*** and base their conclusions on. In quantitative research, the focus is on numbers which are amenable to statistics and other numerical analysis. In qualitative research, on the other hand, researchers focus on the written or spoken language, observations and other non-numerical data (Creswell 2014:4; Durrheim 2006:47). In addition to qualitative and quantitative research, Creswell (2014:4) also includes mixed methods research. He explains mixed methods research as an approach to research that combines or associates quantitative and qualitative research.

The design adopted for this study was grounded theory. There are authors who describe grounded theory as a qualitative research method (Eaves 2001:655). In their work that introduced grounded theory, *The Discovery of Grounded Theory*, Glaser and Strauss emphasise that the aim of grounded theory is to generate or discover a theory and that ***both*** qualitative and quantitative data are useful in that pursuit (Urquhart 2013:5; 8). The idea that the grounded theory method is only applicable to qualitative methods is therefore not valid. Nevertheless, the nature of the research problem, the objectives, as well as the research question dictated that the methodology for this research should be qualitative. Furthermore, the methodology and research design adopted informed the methods and techniques that are appropriate for data collection as well as for data analysis (Creswell 2014; Henning et al. 2004:6, 101). As outlined later in this section, this study utilised

content analysis and key informant interviews for the collection of data, its analysis and its interpretation within the grounded theory design.

Some researchers noted an increased use of the grounded theory method (Age 2011:1599; Birks & Mills 2011; Eaves 2001). Those who do not agree with this view argue that grounded theory is not appropriate for some disciplines (Allan 2003). Despite these different views, grounded theory is a method that has previously been utilised within the information science-related disciplines (Chu 2015; Star 1998; Urquhart, Lehmann & Myers 2010; Zhang & Wildemuth 2005). The choice to utilise grounded theory for this study was not simply because it can be used, but because it was the most appropriate approach to responding to the research questions posed.

The grounded theory method "builds theory from the data acquired from fieldwork, interviews, observation and documents" (Urquhart 2013:8). Based on the research problem as stated earlier, this researcher intended to generate a theory or a model that underlies the information society policies, plans or strategies of developing countries such as those in the SADC. Since the objective of grounded theory is either to generate "explanatory models of human social processes", in other words, theories, or to "elaborate on and modify existing theories" (Eaves 2001:655), the grounded theory method was an acceptable method for this researcher to utilise. Earlier in this chapter, aspects of the grounded theory method were discussed without specifically describing what it was and how it was to be utilised in this study to achieve the objectives as stated in Chapter One.

It is appropriate at this stage to describe or define what grounded theory is. Grounded theory was developed by Barney Glaser and Anselm Strauss and outlined in their 1967 ground-breaking book titled, *The Discovery of Grounded Theory* (Babbie 2014:315; Charmaz 2006:xi; Urquhart 2013:3). Some authors describe / define grounded theory as a method to generate theory from the ground (from the data) (Henning et al. 2004:47;115). Others define it as a strategy of inquiry to derive a theory using multiple stages of data collection and analysis (Creswell 2009:13), an approach that attempts to generate a theory from constantly comparing unfolding observations (Babbie 2014:315). This researcher has noted that Creswell

(2014) has changed his naming convention from strategy of inquiry (Creswell 2009:13) to research design or design or inquiry (Creswell 2014:14). There are also those who regard it as a type of research that derives theory through multiple stages of data collection and interpretation (Leedy & Ormrod 2015:274–275). From these, it is clear that the main aim of grounded theory is to generate a theory and that it is very suitable for theory building (Díaz Andrade 2009:46). This approach deals with a different objective to testing an existing theory which has been the dominant research activity up to now (Birks & Mills 2011:2), despite the fact that theory building should not be considered subordinate to theory testing (Díaz Andrade 2009:45).

Even though the purpose of grounded theory is understood, and the method has evolved, there is, however, no consensus as to how the method should be applied. Since this research is not about methodology, it does not focus on the controversies within grounded theory, but rather provides an outline that should provide a better understanding of the design adopted by this researcher.

Babbie describes grounded theory as an approach that attempts to combine a naturalist approach with a positivist concern for a ‘systematic set of procedures’ in performing qualitative procedures (Babbie 2014:315). One way of distinguishing grounded theory methods from other research methods is the identification of the so-called essential features of the grounded theory method. These features are “initial coding and categorising of data; concurrent data generation or collection and analysis; theoretical sampling; constant comparative analysis using inductive and abductive logic; theoretical sensitivity; intermediate coding; selecting a core category; theoretical saturation; and theoretical integration” (Birks & Mills 2011:9). These “features” outline how a theory is generated by utilising the grounded theory method.

Another approach to understanding the grounded theory method refers to the four characteristics that distinguish the grounded theory method (Urquhart et al. 2010:359). These characteristics attempt to distinguish grounded theory from any other method and are outlined as follows:

1. It can only be grounded theory if it is utilised to build or generate a theory.

2. In conducting a grounded theory method, the researcher avoids his or her preconceived theoretical ideas so as not to contaminate the work he or she is undertaking.
3. The use of theoretical sampling, which refers to a process where the researcher selects that data to collect and analyse based on the categories and their characteristics that emerge from the coding activity.
4. The method involves a continuous interplay between data collection and data analysis through joint data collection and constant comparison, where “every slice of data is compared with all existing concepts and constructs to see if it enriches an existing category.”

This grounded theory methods study was designed to commence with the analysis of the national ICT policies of SADC countries utilising content analysis as its first stage. This analysis was to form the basis of the next stage, being the interviewing of key informants. All information collected was theoretically sampled and analysed utilising the grounded theory approach. The use of content analysis within the grounded design needs to be clarified without diverting to a methodological polemic.

The need for this clarity is necessitated by the view of some methodologists who argue that, strictly speaking, content analysis is a research design at the same level as grounded theory and that, if documents are used to collect data, the appropriate method could be document analysis (Ngulube 2015b:129). This researcher accepts that content analysis is a design in its own regard. However, since the procedures that need to be undertaken for this study in terms of the grounded theory are more congruent with those of content analysis, this researcher has opted to utilise content analysis as a research method rather than as a research design. That content analysis could be utilised within a grounded theory context has been accepted by content analysis proponents such as White and Marsh (2006:36). Before delving into a discussion of the methods in the next section, the report discusses the sampling techniques utilised for this study.

### 3.4 Population, sampling and data collection instruments

The previous section outlined the design that this research will utilise to extract the theory from the data. In this section, this researcher describes the different

techniques that were utilised to select and collect the data, and to analyse and interpret the data so that a theory or model can be built.

### 3.4.1 Population of the study

The population of interest was the information society policies of all the SADC countries. The 15 countries that constitute the SADC are Angola, Botswana, Democratic Republic of Congo (DRC), Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia, and Zimbabwe (Southern African Development Community 2012). Essentially, these countries and their respective national ICT policies constituted the population of interest for this research.

Based on an understanding of the purpose of this research as well as the questions that the research will respond to, a unit of analysis should enable an improved identification of the population. A unit of analysis indicates what or who is being studied (Babbie 2014:101; Henning et al. 2004:71). It is important to ensure clarity of what this research is about so as to select and analyse the correct data. The unit of analysis is a key concept in ensuring this clarity. According to Durrheim, “units of analysis have an impact on sample selection, data collection, and the type of conclusion that can be drawn from the research” (Durrheim 2006:41).

For this research, the unit of analysis was the information society policies or strategies for the individual SADC countries; this can be expressed as the country and information society policy pair. In terms of the types of units of analysis that are common within the social sciences, national information society policies can be classified as social artefacts (Babbie 2014:104; Durrheim 2006:41).

The unit of observation, described by Long (2004:1158) as the actual source from which the information about the unit of analysis is obtained, was the national ICT policies, other information society-related policies and legislation, as well as key informants for the different stages of the research.

### 3.4.2 Data sources and sampling

Due to practical reasons, particularly the availability of policies in a language that this researcher understood, it was imperative to know that not all information society policies within SADC countries had a chance to be studied. Table 1-1 shows that Angola, Democratic Republic of Congo, Madagascar, Mauritius, Mozambique and Seychelles do not use English as their main language, and thus most of the documents generated in those countries are not likely to be written in English. These countries use French and Portuguese, which this researcher does not understand. Only those policies which were available in English were sampled. Consequently, probability sampling as explained in Babbie (2014:199–215) was not be considered in this study. Probability sampling refers to a sampling approach whereby all the units have an equal chance of being included in the sample. The use of grounded theory dictates the use of theoretical sampling (Boeije 2002:391; Urquhart 2013:184). Sampling methods that were considered for this research were non-probability sampling, which includes convenience, purposive, snowball, quota sampling (Babbie 2014:199), as well as theoretical sampling (Charmaz 2006:96–102; Henning et al. 2004:71).

Charmaz (2006:99–102) distinguishes between initial sampling and theoretical sampling in conducting a grounded theory research. Regarding this distinction, initial sampling determines where the researcher starts to generate the categories, whence the theory will be developed. The initial sample for this study was the national ICT policies of the 12 countries listed in Table 1-5. It seemed that the ministries responsible for ICT were the ones that were focused on the promotion or coordination of information society programmes. This researcher was able to locate ICT policies for the 12 SADC countries as listed in Table 1-5. These policies seemed to form the foundation on which these countries could build the information society and were the focus of this research. All these policies refer to the importance of building an information society.

The sampling strategy for the initial sample for this study is referred to as purposive sampling because policies were selected on the basis of the judgement of this researcher (Babbie 2014:200; Neuman 2014:169). For this study, this researcher was of the opinion that the national ICT policies of the SADC countries was the most

informative with regard to how SADC countries plan to achieve the information society in line with what has been argued below.

> Since the object of any qualitative research is not generalizability but transferability, sampling does not need to ensure that all objects being analysed have an equal or predictable probability of being included in the sample. Transferability refers to a judgment about whether findings from one context are applicable to another. Instead, the sampling should be theoretical and purposive. It may have as its objective providing the basis for identifying all relevant patterns in the data or characterizing a phenomenon. (White & Marsh 2006:36.)

In this first stage of the design based on content analysis, it is important to emphasise that "samples for qualitative content analysis usually consist of purposively selected texts which can inform the research questions being investigated" (Zhang & Wildemuth 2005:2).

Expanding on the discussion of national information society policies in Section 2.6 of Chapter Two, it is necessary to note that the national ICT policies are not the only documents that expound on the information society policies that countries adopt. Countries express their policies in many different documents and ways. Policy does not even have to be written down in a document (De Coning & Wissink 2011:13–16; Page 2008:210–211). Rather than selecting a set of different policy instruments that the SADC countries have adopted to implement their information policy agendas, this study elected to utilise the national ICT policies. As can been seen from Table 1-5, at least all English-speaking SADC countries had such a policy. In searching information society-related documents, this researcher has observed that the different SADC countries have different legislative instruments, many of which are not available online (Lewis & Abrahams 2013). Furthermore, the nature of national ICT policies is broad enough to enable a better understanding of how the country intends to implement its information society programme.

The choice of using national ICT policies to understand the national information society policies of the various countries has a weakness in that there is a perception

that such policies are policies aligned to specific administrations and could be discarded after the tenure/term of the party or leader that championed the policy. On the other hand, policy decisions which come in the form of legislation or are made by lawmakers tend to be perceived as legitimate and binding to all within that jurisdiction (Anderson 2011:125). The legislative type of policy instrument potentially stands a better chance of surviving electoral changes. This weakness does not disqualify national ICT policies adopted in a particular period to understand what the theoretical basis of the information society policies is.

The second stage of the sampling was driven by theoretical sampling. This researcher decided what data to collect and where that data will be collected from (Bryant 2014:131). This researcher selected the data source on the basis of their fit (Henning et al. 2004:71). The data sources were primarily in the form of interviews.

The nature of theoretical sampling is such that the researcher does not commence the research process with a clear idea of what the size of the sample is (Boeije 2002:393; Hase & Ng 2008:159; Holton 2010:28). During this phase of the study, this researcher identified when theoretical saturation had been achieved. Theoretical saturation was achieved when additional data did not introduce new insights in the categories being studied (Bryant 2014:131).

### 3.4.3 Data collection instruments

Table 3-1 above provides a broad-brush description of data collection methods and data collection instruments. The data collection techniques sometimes referred to as data sources relate to how the data is collected and, for qualitative data, this is typically in the form of observation, surveys, interviewing, and artefact and document studies (Henning et al. 2004:5–6; Recker 2013:90–91). As stated in Section 3.4.2, this study analysed the national ICT policies to understand the theoretical base for the information society programme for SADC countries. This statement confirms that the primary data source for this study was documents.

However, in addition to this, as determined by the outcome of the initial stage, it was necessary to conduct interviews with some knowledgeable informants. Since the need for and the nature of these interviews were determined from the outcome of

the first stage, predetermined instruments were initially not available. These interviews were unstructured rather than structured and were exploratory in the sense that the interviews commenced with a broad question and allowed the informant to direct the engagement. Further questions emerged from the discussion (Recker 2013:90). The typical weaknesses of interviews, such as potential bias, was mitigated by the fact that the interview was not the primary data collection technique (Gorman et al. 2005:127). The interview took the following form:

- Introductions and other preliminaries
- Inform the interviewee of the ethical aspects of the research (i.e. they are free to participate or withdraw, confirm their anonymity, etc.)
- Content of the interview
    - Please inform me of your role in the information society programme of _____ (country).
    - What is your view on _____.

This researcher transcribed the interview and loaded it into the NVivo software application for further data collection and analysis.

The discussion of data collection instruments raises the role of computer tools to assist the researcher in collecting data. As an instrument of data collection and analysis, this researcher utilised the NVivo Software tool. The manner in which this tool was utilised should not suggest that the tool took over the role of the researcher, but rather made this researcher's job easier (Leedy & Ormrod 2015:27). The software was utilised to capture the documents so that this researcher was able to extract the data. In capturing the data, this researcher also undertook some element of data analysis.

### 3.5 Research methods

In this section, this researcher discusses the two research methods that have been adopted to execute the research design discussed in the previous section, content analysis and interviews.

Content analysis, like grounded theory, has different interpretations or versions. In defining content analysis, Neuendorf (2002) insists on it being a quantitative research and emphasises that it cannot in any way be considered qualitative. She describes it "as the systematic, objective, ***quantitative*** [my emphasis] analysis of message characteristics" (Neuendorf 2002:1). On the other hand, White and Marsh (2006:23) characterise content analysis as a method or technique that can be used on its own or with others utilising the qualitative, quantitative or mixed methods approach within the information sciences. The latter accept Krippendorff's definition of content analysis, which states that it is "a research technique for making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use" (White & Marsh 2006:23–27). There are a number of other definitions and descriptions of content analysis that have been proffered (Chu 2015:39; Hsieh & Shannon 2005:1277; Leedy & Ormrod 2015:275–276; Zhang & Wildemuth 2005:1–2), some of which are not inconsistent with the one offered by White and Marsh (2006:23–27).

Rather than accepting the narrow understanding of content analysis as outlined by Neuendorf (2002), this researcher is inclined towards the broader understanding which is in line with his philosophical views as outlined above, as well as White and Marsh (2006). In this study, content analysis is broadly defined as a method or technique of "analysing written, verbal or visual communication messages" (Elo & Kyngäs 2008:107–108). This approach surely led to a more effective resolution of the research problem. Content analysis is sometimes described as flexible (Elo & Kyngäs 2008:113; Hsieh & Shannon 2005:1277); as a result, it is prudent to mention how it was performed in this research study.

In their distinction between qualitative and quantitative content analysis, White and Marsh describe the qualitative process in such a manner that it mimics elements of the grounded theory process. To illustrate the point, they characterise qualitative content analysis as being inductive where the research question guides the data gathering and analysis and the coding is subjective with the use of memos to document perceptions (White & Marsh 2006:35–36). In fact, White and Marsh state that content analysis may be used "to develop grounded theory" (White & Marsh 2006:36) or is similar to the initial stages of the grounded theory method (Hsieh &

Shannon 2005). Others have also stated that content analysis can be utilised to develop a theory (Elo & Kyngäs 2008:108–109).

The flexibility of content analysis, the fact that it does not proceed in a linear manner, as well as the lack of a single approach to doing it, may seem like an advantage. However, these are the characteristics that also make it more challenging to implement (Elo & Kyngäs 2008:103; Hsieh & Shannon 2005:1280–1281). With content analysis, large volumes of textual data and sources can be analysed to provide support for the conclusions reached. A disadvantage may be that the trustworthiness of the results is reduced due to the perceived negative influence introduced by the extensive interpretation of the text by the researcher in the qualitative version. However, this disadvantage is true for all qualitative approaches (Elo & Kyngäs 2008:112). The use of content analysis in this study is not unique in the information sciences; it has been utilised by some researchers within the field (Chu 2015:39).

Since this research is aimed at discovering the theoretical underpinning of the information society policies adopted by the different SADC countries, latent content, as opposed to manifest content, was coded. Manifest content relates to the obvious, objective, visible content that can be identified by reading the content, in this case, policies which will be analysed. A choice to select manifest content analysis could have improved the perceived objectivity of the analysis as opposed to latent content analysis, which requires objective analysis (Babbie 2014:346–347). However, due to the fact that this study is about discovery, the policies of different countries are likely to utilise different words to refer to similar concepts, thus requiring some level of interpretation, thus the choice of latent content analysis. As an exploratory study, further research may have to be conducted to confirm the research findings emanating from this study.

The content analysis has identified some themes emanating from the national ICT policies of the selected SADC countries. These themes and the memos that were written in the coding process drove the theoretical sampling for additional information society-related documents and other informants that were interviewed. Babbie emphasises the distinction between an informant and a respondent, the

latter being a person who provides information about him-/ herself and an informant being a person who provides information about a phenomenon he or she knows about (Babbie 2014:202). Based on this distinction, this study utilises the term informant.

Typically, grounded theory utilises field research and interviews to gather data (Allan 2003; Eaves 2001:655). Data collected through interviews is better than that collected in surveys (Allan 2003). Key informant interviews have been defined as “in-depth interviews of a select (non-random) group of experts who are most knowledgeable of the organization or issue” (Parsons 2008:408). According to Parsons (2008:408), a “key informant refers to the person with whom an interview about a particular organization, social program, problem, or interest group is conducted.” Because of the position of key informant in relation to the issue that is being studied as well as the challenge of conducting an expensive study, this research has, in some instances, conducted key informant interviews through telephonic or other electronic means.

As stated in Section 3.4.2, interviews with selected knowledgeable people were conducted. Parsons (2008:408) defines key informant interviews within the context of surveys and states that they consist of in-depth interviews. This approach is misaligned with the view that surveys are by their nature quantitative, whereas in-depth interviews are qualitative.

When selecting informants, it is important that these individuals should have the information that is required to respond to the relevant questions (Babbie 2014:202). Based on the outcome of the codes and how these directed the selection of the informants, the research ensured that these were selected based on their knowledge of the subject matter. Leedy and Ormrod (2015:282–285) provide guidelines for conducting effective interviews in a qualitative study. The guidelines are listed as follows:

1. Despite the fact that the interview might be unstructured, the researcher should identify some questions in advance. It may not be necessary to ask all the questions directly, since some may be responded to while responding to others.

The way in which the questions are asked should be open and should not hint to the informant whether any response is desirable or not.

2. In framing the question, the researcher should consider the informant's background. The informant's background may influence how they respond to questions.
3. The selection of the informant should be more considerate, and the researcher should be careful of selecting informants who have extreme or exceptional views. This may be very difficult for the researcher to know in advance.
4. The interview location should be such that the informant is willing to talk, and the interview is not distracted.
5. The researcher should obtain explicit informed consent (preferably written) from the informant.
6. The researcher should maintain rapport with the informant without influencing the responses by expressing his or her views about the subject.
7. The researcher should focus on actual situations rather than abstract ones. In other words, the questions should avoid philosophising.
8. The researcher should listen patiently to the informant without putting words in the mouth of the informant, even if they appear not to have the right words.
9. The actual words of the informants should be utilised when capturing the interview; the interview should preferably be recorded.
10. The researcher should avoid expressing their responses, especially if this may tend to influence the responses by the informant.
11. The researcher should not correct the informant as the informant is providing their perception rather than facts.

Key informant interviews as a means for data collection could be in the form of telephonic or face-to-face interviews. Between the two approaches, face-to-face interviews have the advantage of building more rapport and allowing the researcher to observe other forms of communication such as body language, whereas telephonic interviews are cheaper and only consume the cost of the long-distance call. People have different concerns related to being interviewed, these may relate to a reluctance to participate, being bother, cost of telephone calls, or avoid being distracted by face-to-face interviews (Leedy & Ormrod 2015:160), therefore the choice of selecting a means of data collection has be measured. In conducting

informant interviews, this researcher preferred face-to-face interviews, but considered telephonic interviews where practicalities dictated otherwise, especially noting that the research required interviews with individuals from outside South Africa.

### 3.6 Data collection and analysis procedures

In terms of grounded theory, there is joint conduct of data collection and data analysis (Birks & Mills 2011:10; Charmaz 2006:20–21; Gibbs 2010; Leedy & Ormrod 2015:274). This section explicates how this research is designed to conduct both.

As argued in Section 3.4.2, the initial sample was purposively drawn from the national ICT policies of SADC countries. Drawing data from a purposive sample has the limitation that the result may not be generalisable. There are two elements related to the selection of this sample. Firstly, it relates to the countries from which these policies were drawn. Three of the fifteen SADC countries do not have their national ICT policies published and available in English. These policies have been excluded. Secondly, information society-related policies come in the form of national ICT policies, legislation, as well as sector-based policies such as national ICT policies within education, health and business. Noting that most countries have developed national ICT policies to conform to the WSIS (International Telecommunication Union 2010b) and do not necessarily have a plethora of or other associated policies, it made more sense to commence the data collection and analysis with the sample of national ICT policies.

The first stage of data collection and analysis through the content analysis of the national ICT policies required the coding of these policies. Babbie (2014:346) characterises content analysis as essentially a coding operation. He further opines that since the analysis may often be repetitive and tedious, computer programmes may be useful for the researcher (Babbie 2014:350). Computer Assisted Qualitative Data Software Analysis (CAQDAS) refers to the use of computer technology to assist the researcher in organising and searching the data. CAQDAS also assists in ensuring that the data is efficiently backed up. Utilising a computer allowed this researcher to focus on the analysis rather than on the administrative tasks and allowed for complex searches that would have been nearly impossible when using

manual methods (Bringer, Johnston & Brackenridge 2004). It is self-evident that using CAQDAS requires the researcher to learn the use of the specific software to be used for the research. This researcher has selected the NVivo software by QSR International to assist with the data collection and analysis through coding.

### 3.6.1 Coding procedures adopted

One of the most common techniques for analysing qualitative data is coding (Ngulube 2015a:138; Saldaña 2013:2–3). Saldaña defines a code as a "research-generated construct that symbolises and thus attributes interpreted meaning to each individual datum for later purpose of pattern detection, categorisation, theory building, and other analytic process" (Saldaña 2013:4). Another researcher, Recker (2013:92), describes coding in the following words:

> Coding refers to assigning tags or labels as units of meaning to pieces or chunks of data collected – words, phrases, paragraphs, or entire documents. Through coding, we can categorise or organise data. Often, coding is employed to organise data around concepts, key ideas or themes that we identify in the data. We see here that coding already is analysis – in fact, it is already interpretation of the data.

This description or definition of coding is one of the many noted in the literature (Charmaz 2006:3,43; Creswell 2014:197–199; Ngulube 2015a:138; Remenyi 2014:18; Saldaña 2013:2–3; Urquhart 2013:35). It has been chosen because it focuses on all the key points that this researcher accepted.

The coding that was adopted for this research commenced after the national ICT policies were imported into the NVivo software. Once the sources were imported, they were read to provide this researcher with an overview of the policy document prior to the actual coding. At this stage, fragments, sentences or paragraphs were coded. Going beyond this was likely to have been too abstract to be meaningful (Finfgeld-Connett 2013:343).

Hsieh and Shannon (2005) describe three approaches to content analysis as conventional, directed and summative coding. "In conventional content analysis,

coding categories are derived directly from the text data…", whereas with a directed approach, the researcher "…starts with a theory or relevant research findings as guidance for the initial codes". Lastly, "…summative content analysis involves counting and comparisons, usually of keywords or content, followed by the interpretation of the underlying context." (Hsieh & Shannon 2005:1277.)

Because there is limited theory upon which the coding of this research would have been conducted, the conventional approach was adopted (Hsieh & Shannon 2005:1279). Based on the research questions, the initial coding focused on detecting patterns and categorisation. As this researcher read the national ICT policies, he tagged those sections that seemed to relate to the research questions and compared the categories and constructs that emerged (White & Marsh 2006:37). Both content analysis and grounded theory use coding. During this coding process, this researcher wrote memos that guided the generation of a theoretical sample of additional sources, which were also coded, which ultimately led to the theory.

To effectively communicate about coding for both the content analysis and the grounded theory, the concepts of descriptive and analytic coding are described. One way of coding is simply to describe a piece or text. This form of coding is referred to as descriptive coding. Another form is to look at what lies behind the words, in a sense identifying a concept that the text refers to. This form of coding is called analytic coding (Urquhart 2013:36–37). There are a number of possible approaches to coding that could generate a grounded theory (Charmaz 2006; Urquhart 2013). This research follows the model outlined by Urquhart (2013) and represented in Figure 3-3. This choice was partially motivated by the fact that Urquhart is closest to the information society discipline of all the key researchers focusing on grounded theory methods. Furthermore, her approach is simpler to understand and implement.

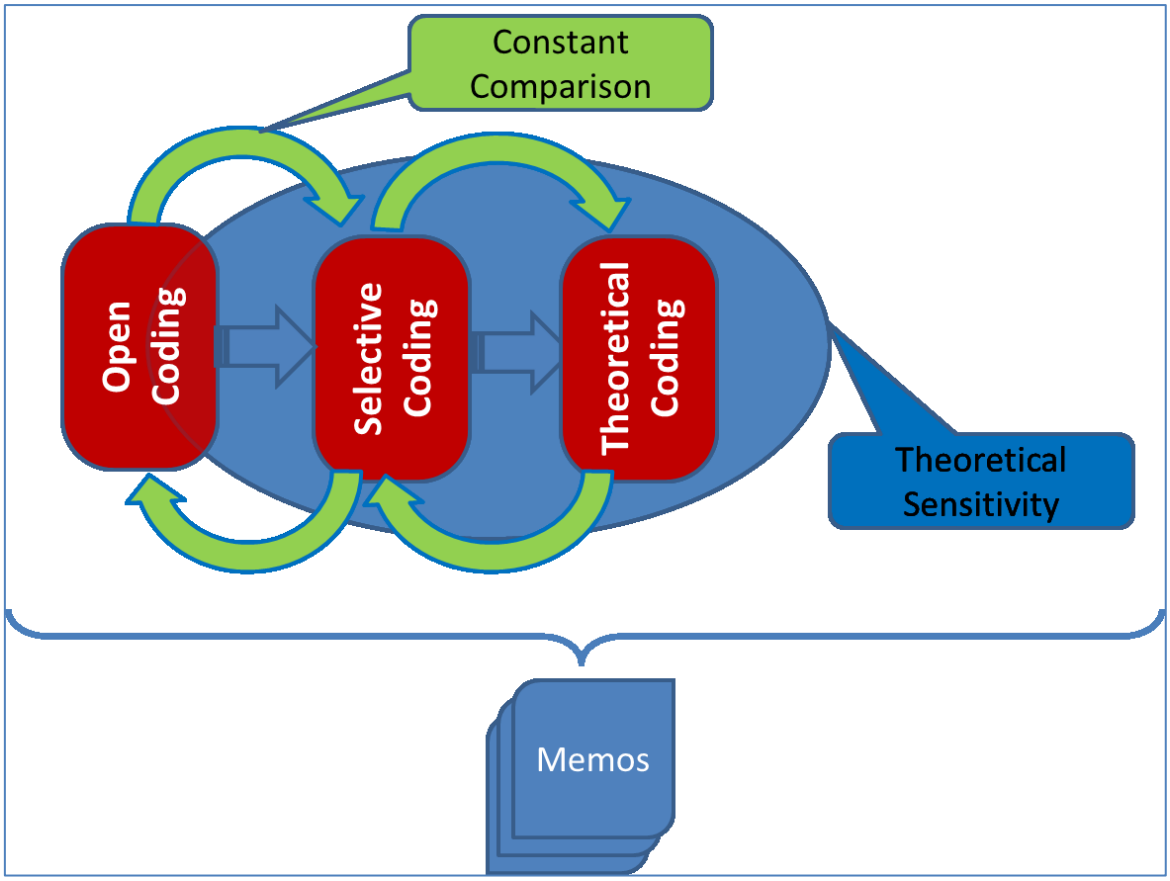



Figure 3-3: Selected coding procedure

Source: (Generated from reading Urquhart 2013:45–51)

The process for developing the grounded theory followed the following three coding steps: open coding, selective coding and theoretical coding. The initial coding, which is open and likely to be descriptive, was done through line-by-line coding and segment-by-segment coding (Charmaz 2006:50–54; Urquhart 2013:45–48). The suggestion that both line-by-line coding and segment-by-segment coding was conducted was influenced by this researcher's intention to cut the process short. This approach was motivated by the fact that not all the national ICT policies needed to be coded line by line. However, the initial policies were coded line by line. This approach is acceptable as stated by Urquhart (2013:48–49).

The next stage of coding was selective coding, which organised the open codes into selective codes that became the core categories of the theory. During selective coding, the codes were analysed by considering the research problem in a sense that they had some relevance to the research problem. The memos written during

this phase alerted this researcher to the core variables or categories. This phase is equivalent to what Charmaz refers to as focused coding (Urquhart 2013:50).

During the last stage of coding that Urquhart (Urquhart 2013:50–51) refers to as theoretical coding, the researcher established the connections or relationships between the categories as well as how they relate to the core variables, essentially generating the grounded theory. Once the theory was developed, the literature was searched to compare and contrast the grounded theory with whatever base theory is available in the field (Giske & Artinian 2007:78).

### 3.6.2 Improving the credibility through triangulation

In addition, and as part of the research design, researchers seek to implement measures to make their conclusions more acceptable and defendable in the sense that their conclusions are likely to be accepted as correct. One of these measures is triangulation (Leedy & Ormrod 2015:104). According to Thurmond, “triangulation is the combination of two or more data sources, investigators, methodologic approaches, theoretical perspectives …, or analytical methods … within the same study” (Kelly 2006:380; Thurmond 2001:254). The following are examples the different types of triangulation:

1. Data triangulation is one of the research designs / activities whereby the researcher collects data from multiple sources in order to support a hypothesis or theory; an example may be to use more than one method and look for common themes that answer a single research question. This activity is common in qualitative and mixed method designs (Leedy & Ormrod 2015:104). In qualitative studies such as content analysis, triangulation is one of the ways that can be utilised to increase the credibility and trustworthiness of the findings (Hsieh & Shannon 2005:1280).
2. Investigator triangulation is when different researchers repeat the same research to ensure that the bias of the researcher is minimised. This approached is sometimes used during coding when different researchers code the same data (Thurmond 2001:254).

3. Theory triangulation is when multiple theories or hypotheses are used on the same data (Kelly 2006:380).
4. Methodological triangulation is when multiple methods are used to study the same phenomenon. The researcher may review documentary resources and then conduct a survey in order to verify the result of the document review (Kelly 2006:380).
5. Interdisciplinary triangulation may be considered when the findings in one discipline are compared with the findings from another discipline (Kelly 2006:380).

The design for this research indicates that data as well as methodological triangulation in the data was collected from the national ICT policies as well as other documents and the interview of knowledgeable informants. Furthermore, content analysis as well as grounded theory methods were utilised. Therefore, this researcher is more confident that the research design is likely to provide results that are more acceptable and credible in line with Kathy Charmaz' criterion for a good grounded research (Puddephatt 2007:6). This procedure commenced with the data collection that is discussed next.

### 3.6.3 Data collection and analysis challenges

This researcher collected the national ICT policies of the SADC countries from the commencement of the study in 2013. The policies for the non-English-speaking countries of Angola, Democratic Republic of the Congo and Madagascar that were not published and available in English are discussed in Chapter Three. These countries have been excluded from the study; the fact that the policies were not analysed should not in itself compromise the quality of this study. Temple and Young (2004) discuss a number of complications that arise in qualitative research as a result of translating sources. These include the fact that in the process of translating, the translator would inevitably interpret the contents. This may introduce meanings that are not in line with what this researcher would have considered had he or she been competent with the language Three of the fifteen SADC countries were excluded, which constitutes less than 20% of the SADC countries. Since 80% of the countries that are included in the study have been selected based on convenience

sampling, the study cannot be generalisable to the whole of the SADC countries. Furthermore, attempting to determine the impact of the sample size or the response rate on the generalisability of the study would not make sense (Henry 2008:79–81; Lacy, Watson, Riffe & Lovejoy 2015:793–795). In addition, translation would have increased the cost of the research, which would not have contributed materially to the study. The non-English-speaking countries of Mozambique, Mauritius and Seychelles do have national ICT policies in English and these were included in the study. Challenges that this researcher experienced related to the policies of Botswana and South Africa are disclosed and discussed next.

This researcher had a challenge to locate the final policy document for Botswana. The document that was initially found on the website of the United Nations Public Administration Network (UNPAN) and was titled as “Draft”. This “draft” is the document that was coded. This matter was of concern to this researcher who kept on searching for the document that could surely be listed as the final national ICT policy for Botswana. On 4 June 2016, after completing the initial coding, this researcher ultimately located the final national ICT policy for Botswana on the Botswana Information Technology Society website (Government of Botswana 2007). There was no doubt that this document was the required document as it was clearly marked “as approved by the National Assembly in August 2007” and appropriately titled and accompanied by the relevant foreword by the appropriate minister.

To avoid duplicating the initial coding process for the Botswana policy, this researcher compared the two documents, line by line, and found typographical and editorial differences that were largely insignificant. Some of these differences included that Section 5.2 of the draft document contains the words “A truly national effort”, whereas the final document does not. In paragraphs 8.1 and 8.2 of the draft document, estimates for the cost of funding projects aimed at implementing the policy are provided, whereas in the final document these estimates are not reflected. It is possible that some of the differences may have been missed; however, these differences are likely not to be substantive and thus the policy was not re-coded.

The equivalent policy for South Africa that was analysed is *The National Information Society and Development (ISAD) Plan* (Republic of South Africa 2007). As is apparent in the name of this document, when compared to the documents from the rest of the SADC countries' documents, it does not refer to ICT in its title. This difference raised the question of whether the said document is equivalent to the national ICT policies of the SADC countries. In the foreword of the document itself, the Minister of Communications, Dr Ivy Matsepe-Casaburri, specifically states that the document is responding to the WSIS for countries to develop plans to build the information society (Republic of South Africa 2007). In 2014, South Africa published a draft dubbed *National Integrated ICT Policy Green Paper* (Department of Communications (South Africa) 2014). This Green Paper has been circulated for discussion and has now been adopted as the *National Integrated ICT Policy White Paper* (Department of Telecommunications and Postal Services (South Africa) 2016). During the coding process, this researcher noted that the essence of the *National Information Society and Development (ISAD) Plan* is not different from the national ICT policy documents of the other SADC countries. Although there may be doubt about the nature of the *National Information Society and Development (ISAD) Plan*, this researcher concluded that treating this plan in the same manner as the other national ICT policies was not going to compromise the outcome of this study.

### 3.6.4 The coding activities

From 1 June 2014 to 1 July 2015, the national ICT policies of the 12 SADC countries were uploaded onto the NVivo Sources folder (initially version 10 and later, during October 2015, migrated to NVivo 11 Pro after this newer version was released). To ensure the "purity" of the content analysis codes, the national ICT policies were coded separately under a node titled "CODING THE POLICIES". This node was intended to specifically code the policies as part of the content analysis phase of the study.

During the coding of the policies, the Mozambique policy posed a unique challenge in that the coded parts of the document were not readable when read from the nodes within the NVivo application. This was due to the PDF document being created in a format that garbled the text; for instance, the words "Information and Technology

Policy" became ",QIRUPDWLRQ DQG &RPPXQLFDWLRQ 7HFKQRORJ\ 3ROLF\". This technicality made it more cumbersome to work with the Mozambique policy and this researcher had to reopen the original policy every time it became necessary to check the actual text that was coded. There is a risk that this researcher could have paid less attention to some codes associated with this specific policy in view of the manual process.

While this researcher has noted the broad commonality of the policies with regard to their contents, it should be noted that the different countries have addressed their needs to develop their policies differently, particularly in terms of language and how the documents are designed. An example of these differences is how the countries have named their policies. The different names of the policies are outlined in Table 1-5. Another example is the extent to which the documents are put together, excluding the preliminary pages. The Seychelles' policy is 11 pages long, whereas the South African policy is 90 pages long. The difference in the size of the document indicates that a document may express a similar point in a longwinded manner. Another possibility is that longer documents could have addressed issues that the shorter documents did not. Besides the issues discussed in this section related to the policies of Botswana, South Africa and Mozambique, the coding process went smoothly and is reported on next.

The initial coding commenced on 24 June 2014. These codes were generated by this researcher from the reading of the broader literature to understand the key concepts as discussed in Chapter Two. The key concepts that were coded related to different aspects of development, the information society, the digital divide and policy making. To facilitate the readability of this report, the research has adopted the use of capital letters to refer to codes as coded.

The full list of the initial codes is provided in Appendix E. The list in Table 4-1 excludes all the codes that were generated in respect of readings related to research methods as well as the codes generated for each country. These codes that are excluded from the list would not directly fit into the development of the theory which this study is about. The list in Appendix E, however, does include the codes that

were developed during the preliminary literature review by this researcher to understand the key concepts relevant to the research.

### 3.7 Ensuring the quality of the study

A key element required in any study is to provide to the readers the comfort that the process and, consequently, the results obtained therefrom can be trusted (Gorman et al. 2005:22–23). This ensures that this researcher addresses the necessary elements which will be evaluated in order to determine if the findings of the research can be accepted (Creswell 2014:201–204; Gorman et al. 2005:22–3; Henning et al. 2004:146). In many instances, a discussion around this revolves around concepts such as quality, rigour, validity and reliability, as well as trustworthiness (Ngulube 2015a:151–2).

A number of researchers have argued that as a result of the previous dominance of the quantitative research, the concepts of reliability, validity and generalisability have continued to be utilised in qualitative research even when they are not suitable (Golafshani 2003:599–600; Henning et al. 2004:146–7; Tobin & Begley 2004:389). Reliability is when a research instrument(s) consistently produces the same results, validity is when the research instrument(s) measures what it intends to measure (Golafshani 2003:599; Gorman et al. 2005:24–5) and generalisability refers to the applicability of the research results/ findings to other situations apart from those that were discussed in a study (Creswell 2014:203–204). Creswell (2014:201–204) provides alternative descriptions of the concepts that could sit better within the qualitative type of research as well as some guidelines to achieve rigour in qualitative research. The use of the same terms, albeit with different connotations, is likely to create more confusion (Golafshani 2003:601) and thus this researcher prefers to use terminology that is more relevant to qualitative research. Despite the difference in the terminologies utilised to determine the acceptability of a research activity, Ngulube (2015a:151) and Recker (2013:94) argue that all forms of research should demonstrate rigour.

What is considered good in the context of quantitative research is not necessarily considered good for qualitative research. This research is situated in the SADC context and the theory that is being developed can reasonably be expected only to

be applicable to the selected SADC countries. To expect a similar outcome to this research in a different context will be inconsistent with the underlying philosophy of this study. Therefore, generalisability is not a meaningful concept for this research. This is not surprising, as qualitative research is known for not being generalisable (Recker 2013:37).

Having stated that validity tells us whether the research achieves what it set out to achieve in quantitative research, we can note that this concept cannot be fully discarded but should rather be modified to suit the qualitative approach. Some authors prefer to state that in qualitative research, validity can be determined in terms of trustworthiness, authenticity, credibility or conformability in an unstructured manner (Golafshani 2003; Gorman et al. 2005:27; Henning et al. 2004:147; Recker 2013:94); however, there is no consistency in how these concepts are utilised. Within the qualitative approaches, the criteria for trustworthiness is equivalent to both reliability and validity (Golafshani 2003:600). Furthermore, dependability, which is an element of trustworthiness, is more equivalent to reliability (Golafshani 2003:601; Recker 2013:94; Schwandt, Lincoln & Guba 2007:12).

This researcher adopted the approach presented by Schwandt et al. (2007:12) because this approach is better structured, broader and makes more sense. In terms of this approach, the quality of research is determined by its trustworthiness and its authenticity. Table 3-2 provides the equivalence of the quantitative criteria to assess the quality of a research compared to their qualitative equivalent.

Table 3-2: Comparison of qualitative and quantitative criteria

| Quantitative Criteria | Qualitative Equivalent |
|---|---|
| Reliability | Dependability |
| Internal validity | Credibility |
| Measurement validity | Confirmability |
| External validity | Transferability |
| Objectivity | Neutrality |

(Adapted from: Schwandt et al. 2007)

Other researchers (Schwandt et al. 2007:20–3) see authenticity as a separate and unique criterion for achieving rigour in qualitative research. Yvonna Lincoln and

Egon Guba are credited as suggesting authenticity as an additional criterion to improve the quality of qualitative research (Elo, Kääriäinen, Kanste, Polkki, Utriainen & Kyngas 2014; Schwandt et al. 2007; Seale 1999:468) and it refers to the extent to which the researcher fairly and faithfully shows the range of realities (Elo et al. 2014:8).

This study utilises triangulation to improve the trustworthiness and authenticity of the study as suggested by (Golafshani 2003:603). Triangulation means doing more than just one thing (Recker 2013:91) and, in this study, this researcher utilises different sources, methods and investigators (Golafshani 2003:604; Schwandt et al. 2007:18). Triangulation addresses different criteria for trustworthiness.

To meet the criteria for credibility for this study, this researcher has engaged intensely with the national ICT policies as well as other documents that provide insight into the information society policies for the SADC countries. In addition, this researcher engaged “peers” who assisted in the development of the design and, through challenging the emerging theory, the supervisors also contributed to this aspect (Schwandt et al. 2007:18–19).

Another way of ensuring that the research is considered credible is to ensure that other researchers can examine the processes followed and satisfy themselves that the process followed and the outcome are consistent with each other (Golafshani 2003:601; Krippendorff 2013:30; 40). To ensure that this happens, this researcher has reported on all the steps that were undertaken with the understanding that other researchers will have access to the necessary detail.

By providing what could be considered “thick” descriptions, this study enables other researchers to determine if they can utilise the findings in other contexts they are interested in (Schwandt et al. 2007:19). This criterion can effectively be determined after the fact, as it is a judgement by the users of this research.

Interventions similar to those applicable to credibility described above contribute to ensuring the confirmability and dependability of the study. In addition, to support all

the trustworthiness criteria, is to report accurately on the research process (Elo et al. 2014:2) This researcher has done just that.

Despite the use of the different activities to improve the rigour in this study, this researcher notes the limitations that Barbour (2001) has indicated. She discusses purposive sampling, grounded theory, multiple coding, triangulation and respondent validation and argues that the use of these technical procedures can only contribute towards rigour if they are not utilised just to tick checkboxes, but to enhance the actual research (Barbour 2001). This study attempts to consider these warnings in the way the research is implemented.

### 3.8 Ethical considerations

All research should be underpinned by ethical considerations. Some authors (Gorman et al. 2005:43–44; Henning et al. 2004:73–74) focus on the ethical considerations that relate to the subjects (particularly if these subjects are animate) of the research. It is often these considerations that these researchers try to address. It is important to note that every researcher has to consider ethics in every step of the research process from the conceptualisation of the research problem to the writing and dissemination of the research (Creswell 2014:92–101). Whatever design the researcher develops and adopts must have an ethical base and must ensure that the output has value. In line with Unisa's Policy on Research Ethics (University of South Africa 2016), ethical approval was obtained from the Department of Information Science Ethical Review Committee and is attached as Appendix A.

The authenticity discussed in Section 3.7 also contributes to addressing ethical concerns. This researcher will be truthful in identifying and analysing the data and in considering all the possible factors in developing the theoretical concepts.

The design of the research accommodates the conducting of interviews. This requires the researcher to consider ethical issues related thereto. Participants were provided with an information sheet (see Appendix B) that enabled them to provide informed consent. In order to obtain informed consent, the participants were verbally informed in cases where the interview was done telephonically and in a consent

form, in cases where the interview was done physically (see Appendix C). As per Appendix B, the following information were communicated to the participants:

- The nature and purpose/s of the research
- The identity and institutional association of the researcher and supervisor/ project leader and their contact details
- The fact that participation is voluntary
- That responses would be treated in a confidential manner
- Any limits on confidentiality that may apply
- That anonymity would be ensured where appropriate (e.g. coded/ disguised names of participants/ respondents/ institutions)
- The fact that participants were free to withdraw from the research at any time without any negative or undesirable consequences to themselves
- The nature and limits of any benefits participants may receive as a result of their participation in the research

### 3.9 Evaluation of the research methodology

Following on the discussion in Section 3.7, it is important to ensure that research is of a high quality. Researchers have shown that any research is not perfect and that any researcher needs to identify and address, to the extent possible, the peculiar weaknesses related to their study (Ngulube 2005:139–140). As summarised in Figure 3-1, the basis of this study has been a constructivist/ interpretivist paradigm with a relativist ontology, a subjectivist epistemology and a qualitative methodology. The research design was based on grounded theory which is based on a content analysis of national ICT policies of SADC countries supported by interviews of knowledgeable informants, which contributed to methodological triangulation. Although this methodology appears to be robust for the purpose of developing a theory, it did present some challenges.

Due to the broad understanding of what policy is, and what data sources would be applicable to understand the information society policies of the SADC countries, this researcher's choice of basing his research on the national ICT policies may be considered to have unduly narrowed the scope of the research. To have included

all documentations in the initial analysis would have rendered the research unwieldly since SADC countries have numerous policy instruments which are not necessarily aligned. With regard to the national ICT policies, at least 12 SADC countries had similar policies which were crafted to provide an overview of how the country intended to build its information society, thus diminishing this weakness. Furthermore, the utilisation of government policies avoided the base of any proposed theory to be disproportionately subverted by current perspectives; however, these current perspectives were sought out in the second phase to triangulate and test the strength of the preliminary theory.

There appeared to be a methodological incongruence in the employment of content analysis within a grounded theory design. However, this should not be considered fatal to the study as it does not challenge validity of the process or procedures. A possible source of this seeming incongruence may be due to the fact that content analysis may be considered to be a data collection technique as well as an analytic technique (Ngulube 2015a). Furthermore, the utilisation of content analysis within a grounded theory design is not unique to this research (Chaterera 2018).

Another potential weakness of this research emanates from the challenge to access knowledgeable informants for many of the SADC government officials, especially since governments are custodians of the national ICT policies. This was made even more difficult by the fact that many of the embassies indicated that they had to defer to their ministries of foreign affairs, who would then have had to direct any request to the relevant ministry before this researcher could access the relevant individual. Fortunately for this researcher, it was possible to utilise some of his network to access some officials for the interviewing. Another challenge related to the fact that the informants were in different countries and it would have been too costly to travel to many of the countries. To address this, this researcher utilised electronic communications such as Skype™[3] to conduct the interviews.

[3] Skype is the trademark of the Microsoft Corporation for a software application that enables people to communicate through video, voice, or chat utilising computers as well as other mobile devises.

## 3.10 Chapter Three summary

In this chapter, this researcher outlined the research design and provided an overview of what he planned to achieve, the aims of the study and the responses to the questions raised in Chapter One. In describing the research design, the chapter has presented the paradigm that guided this researcher to pragmatism while showing that this specific study is more aligned to the interpretive approach.

This exploratory qualitative research is aimed at identifying or developing a theory through utilising grounded theory methods.

The grounded theory design for this research comprised two stages. The first stage was the content analysis of national ICT policies of selected SADC countries purposively sampled. The content analysis stage coded the data latently to identify the underlying concepts within the policies. Following on this stage, theoretical sampling interlaced with snowball sampling were utilised to select additional documents and identify key informants who were interviewed, and the data analysed utilising the grounded theory methods and techniques. The outcome of this design was a theory grounded in the data and ready to be deductively falsified.

# CHAPTER FOUR: PRESENTATION AND ANALYSIS OF THE FINDINGS

## 4.1 Introduction

Chapter Three discussed how the research was conducted. In this chapter, this researcher presents the results. When conducting qualitative research, data collection and data analysis are not separate as is often the case in quantitative research; they are interwoven and can sometimes depend on each other (Gorman et al. 2005:35–36; Henning et al. 2004:127; Ngulube 2015a:133; Recker 2013:92). For that reason, the analysis aspect will be apparent even in this chapter, which is mainly about the presentation of results. The presentation of the results and analysis of the data in this chapter remains consistent with the purpose and objectives of the study as well as responds to the research questions that were presented in Chapter One.

To recapitulate, the purpose of this study was to generate a substantive theory of how SADC countries can build an information society. The substantive theory will help realise the objectives set for the study which are: to understand the approaches that the SADC countries have adopted; to clarify the policy instruments and programmes; to identify the key trends that have been observed within the SADC countries in their effort to build the information society; and to ultimately provide guidance for updating the national ICT policies for those countries that need to. To ensure that the results that are presented are still relevant to the research questions that were posed in Chapter One, these are repeated below:

- What is the rationale for the national ICT policies of the SADC countries?
- What is the package of strategies, policies, plans or programmes adopted by various SADC countries in their effort to build the information society?
- What are the implicit and explicit approaches or theoretical grounding embedded within the package of strategies, policies, plans or programmes implemented by the SADC countries?
- What is the theoretical framework or model that could guide SADC and similar countries in building an information society?

Having underscored the research question, this chapter of the study presents the data and its analysis. In Section 4.2, the Chapter presents a description of how the data were coded, in the next section, Section 4.3, it presents the findings related to the rationale of the national ICT policies of the SADC countries. Section 4.4, presents the policy instruments that the SADC countries consider to be key in the building of the information society, whereas Section 4.5 presents key concepts related to the success of the information society that emerge from the coding process. Section 4.6, presents the emerging theory for building the information society within the SADC countries is presented. Lastly, in Section 4.7, the presentation of findings related to all the objectives is rounded off through the views of the informants before the chapter is summarised in Section 4.8.

## 4.2 Coding the national ICT policies to generate the data for analysis

The coding of the policies commenced on 15 February 2016 and was concluded on 29 May of the same year. Table 4-1 provides a list of codes generated as this researcher was reading the national ICT policies for the selected SADC countries.

Table 4-1: Initial main and selective codes from the national ICT policies

| Initial codes | Selective codes |
|---|---|
| ALIGNING | ALIGNING |
| ACCESS TO ICT PRODUCTS AND SERVICES | CAPACITATING |
| AFFORDABILITY | |
| BROADBAND | |
| CONNECTIVITY | |
| CONNECTIVITY DRAWS COMMUNITIES TOGETHER | |
| CONNECTIVITY FACILITATES ECONOMIC GROWTH AND DEVELOPMENT | |
| CONTENT | |
| DIGITAL DIVIDE | |
| BRIDGING THE DIGITAL DIVIDE | |
| DIGITAL DIVIDE DEFINITION | |
| INTERNAL DIGITAL DIVIDE | |
| MEASURING THE DIGITAL DIVIDE | |
| RURAL URBAN IMBALANCES | |
| FUNDING | |
| HUMAN RESOURCE DEVELOPMENT | |
| SKILLS | |

| Initial codes | Selective codes |
|---|---|
| INFORMATION ACCESS | |
| INFRASTRUCTURE | |
| ICT INFRASTRUCTURE | |
| OWNERSHIP OF TELECOMS | |
| SUPPORTING INFRASTRUCTURE | |
| PERVASIVENESS OF ICT OR IT | |
| QUALITY OF SERVICE | |
| SCARCITY OF RESOURCES | |
| SOCIAL GROUP TARGETING | |
| CHILDREN AND YOUTH | |
| ELDERLY PEOPLE | |
| PEOPLE WITH DISABILITIES | |
| POOR | |
| WOMEN AND GIRLS | |
| STANDARDS AND GUIDELINES | |
| UNIVERSAL SERVICE FUNDING | |
| IMPORTANCE OF ICT FOR DEVELOPMENT | DEVELOPMENT GOALS |
| POVERTY REDUCTION AND ERADICATION | |
| UNEMPLOYMENT | |
| COORDINATION AND SYNERGY | IMPLEMENTATION MONITORING |
| GOVERNANCE OF ICT | |
| GREEN ICT | |
| IMPLEMENTATION | |
| COMPLEXITY THEORY | |
| LIBERALISATION PRIVATISATION & COMMERCIALISATION | |
| MEASURING INFORMATION SOCIETY | |
| CLASSIFICATION OF INFORMATION SOCIETIES BASED ON THE “8 CS” FRAMEWORK | |
| POLICY DEVELOPMENT PROCESS | |
| REGULATING | |
| INDEPENDENT REGULATION | |
| COMPETITION AND LEGISLATION | LEGAL & GOVERNANCE ENVIRONMENT |
| OTHER POLICIES | |
| CHALLENGES OF BUILDING INFORMATION SOCIETY | |
| COST OF ICT | |
| GEOGRAPHIC LOCATION | |
| LEADERSHIP | |
| POOR E-COMMERCE READINESS | |
| RESISTANCE TO CHANGE (CULTURE) | |

| Initial codes | Selective codes |
|---|---|
| SKILLS | |
| SLOW PROGRESS OF DEREGULATION | |
| SOCIO-ECONOMIC ISSUES | |
| COMPETITION AND COMPETITIVENESS | |
| CONCEPT OF THE INFORMATION SOCIETY | |
| CONVERGENCE | |
| DEFINING INFORMATION SOCIETY | |
| MOBILE | |
| BENEFITS OF ICT-INFORMATION SOCIETY | |
| BASIC SERVICES & HUMAN RIGHTS | |
| CIVIC AND POLITICAL BENEFITS | |
| CREATIVITY AND CONTENT CREATION | |
| PROGRESS IN APPLICATION OF ICT IN ECONOMY | |
| DIMENSIONS OF RATIONALE | |
| INFORM AND MOTIVATE | RATIONALE FOR POLICY |
| PRIORITISES | |
| ROADMAP | |
| INFORMATION SOCIETY PLANS AND POLICIES | |
| JUSTIFICATION OF INFORMATION POLICY | |
| NATURE AND BENEFIT OF POLICY | |
| VISIONING | |
| CIVIL SOCIETY ROLE | |
| CONSULTED STAKEHOLDERS | |
| ALL SEGMENTS OF SOCIETY | |
| SPECIAL TEAM | |
| UNSPECIFIED STAKEHOLDERS | |
| GOVERNMENT ROLE | |
| INTERNATIONAL COLLABORATION | ROLE CLARIFICATIONS |
| LEADERSHIP | |
| PARLIAMENT | |
| PRIVATE SECTOR ROLE | |
| ROLE OF ACADEMIA | |
| ROLE PLAYERS | |
| CULTURAL CONSIDERATIONS | |
| DISASTER MANAGEMENT | |
| ECONOMIC AND BUSINESS CONSIDERATIONS | |
| FINANCIAL SECTOR | SCOPE OF POLICY |
| ICT HUB | |
| ICT INDUSTRY-SECTOR | |

| Initial codes | Selective codes |
|---|---|
| EGOVERNMENT | |
| HEALTH IMPROVEMENT | |
| POLITICAL CONSIDERATIONS | |
| PRIORITY FOCUS AREAS | |
| ENVIRONMENT AND AGRICULTURE | |
| MINING | |
| SMME | |
| TOURISM | |
| SECURITY CONSIDERATIONS | |
| SOCIAL CONSIDERATIONS | |

Source: Own analysis

Table 4-1 presents the initial codes as well as the associated selective codes. When interpreting Table 4-1, it should be noted that, in some instances, the policies were coded according to the codes generated during the literature review presented in Chapter Two. These are codes such as “INFORMATION SOCIETY DEFINITION”, “E-GOVERNMENT”, “DIGITAL DIVIDE” and “MOBILE”. The selected codes represent the core categories that were built through the selective coding process and brought to the fore the key concepts that will ultimately form the core of the theory to be developed (Birks & Mills 2011:12).

This researcher is of the view that it was more convenient to present the higher-level coding all at once, irrespective of when they emerged or were identified. Furthermore, as the relationship between the codes became apparent, the connection between them was documented without having to wait for the next step of coding. The following presentation of the findings is in line with the research objectives and embedded within them are the core categories that become the concepts that build the theoretical framework.

### 4.3 The rationale of the national ICT polices for SADC countries

To justify their existence, all the policies provide the rationale for their development. Without exception, the policies state that their purpose was to provide guidance or as some state, a road map, for delivering ICT in the respective countries. The primary weakness or strength that is required to be harnessed to build an effective information society is a vision that is often embodied in the national ICT policy or

other policy instruments discussed in Section 4.4. In addition to these, the policies aim to achieve development objectives. The policies also provide a vision and strategy for development through the provision of ICTs; in other words, building the information society. An essential element of this rationale is the location of the policy within the myriad of other strategies, policies, plans and programmes.

What became clear from the coding process was that despite these policies being labelled ICT policies, they were about the information society. In other words, there is no difference between building an information society and the application of ICTs in a country for the purpose of generating, collecting, transmitting, sharing, storing, retrieving or utilising information. The relationship between the information society and ICTs is well expressed in the Zimbabwe national ICT policy which states that "The world is embracing Information Communication Technologies (ICTs) as tools that enable efficient and timeous exchange of data and information in an effort to contrive an information society" (Zimbabwe Ministry of Science and Technology Development 2005:4).

All the national ICT policies in the SADC countries refer to both the information society and ICT in building their contexts. To illustrate this aspect, Table 4-2 provides the definition of the information society as presented in the respective policies.

Table 4-2: Definition of information society by the national ICT policies

| Country | Definition of information society |
|---|---|
| Botswana | A term used to describe a modern population that is conversant with, and actively using, information and communications technology. A society where the creation and exchange of information is a predominant social and economic activity. |
| Lesotho | Information society is a term for a society in which the creation, distribution and manipulation of information have become the most significant economic and cultural activity. |
| Malawi | Social, business and educational environment where individuals and organisations communicate and access the world's commercial, educational and entertainment resources over a universal network linking them together. |

| Country | Definition of information society |
|---|---|
| Mauritius | The government is committed to build a people-centred, inclusive and development-oriented information society, where everyone can create, access, utilise and share information and knowledge, enabling individuals, communities and people to achieve their full potential in promoting sustainable development and improving their quality of life. |
| Mozambique | The global information society, manifested by the internet, allows information and knowledge to circulate at an unprecedented speed, changing all aspects of life and economic, political and socio-cultural activity. In this information era, it is the ability to use information and communication technologies effectively and efficiently that increasingly determines the relevance and competitiveness of a country in the global economy. |
| Namibia | A term used to describe a modern population that is conversant with, and actively using, information and communications technology. A society where the creation and exchange of information is a predominant social and economic activity. |
| Seychelles | With a modern ICT-enabled economy and a knowledge-based information society where strong, efficient and sustainable improvements in social, economic, cultural, good governance and regional integration are achieved through the deployment and effective application of ICT. |
| South Africa | The information society is therefore characterised by the extent to which sectors of society such as government, business, civil society and communities are able to acquire information that enables them to participate more meaningfully in society. |
| Tanzania | A country or region where information technology has been fully exploited and is part of everyday life as an enabler of information sharing, communication and diffusion. |
| Zambia | A country or region where information and communication technology has been fully exploited and is part of everyday life as an enabler of socio-economic development. |
| Zimbabwe | A country or region where information technology has been fully exploited and is part of everyday life as an enabler of information sharing, communication and diffusion |

(Source: Government of Botswana 2007; Government of Seychelles 2007; Ministry of Communications and Transport (Republic of Zambia) 2006; Ministry of Communications and Transport (The United Republic of Tanzania) 2003; Ministry of Communications Science and Technology (Kingdom of Lesotho) 2005; Ministry of Information Technology and Telecommunications (Republic of Mauritius) 2007; Mozambique (Republic of) 2000; Namibia Ministry of ICT 2008; Republic of Malawi 2013; Republic of South Africa 2007; Zimbabwe Ministry of Science and Technology Development 2005)

Of all the policies analysed, the Swaziland national ICT policy is the only one that did not explicitly define the information society in a direct manner. The Swaziland policy refers to the WSIS as a forum which has developed a common view of the information society suggesting that the policy accepts the WSIS definition as the standard (Kingdom of Swaziland 2006). It is an endorsement of the definition of the information society as outlined in the WSIS documents. In terms of the WSIS, an information society is where everyone can create, access, utilise and share information and knowledge, enabling individuals, communities and people to achieve their full potential in promoting their sustainable development and improving their quality of life. Furthermore, according to the WSIS, the information society is premised on the purposes and principles of the Charter of the United Nations and respecting fully and upholding the Universal Declaration of Human Rights (United Nations World Summit on the Information Society 2005b).

The Namibian policy is one of the few policies that emphasises the postal service as a key part of the information society. In terms of this policy, a letter is similar to other communication services because letters contain messages (Namibia Ministry of ICT 2008:28). The South African policy also refers to the universal provision of postal services as part of the information society; however, it does this in a very peripheral manner (Republic of South Africa 2007:23).

All the definitions of the information society relate to ICTs and / or the management of information through its various stages within a particular context or with a particular rationale. In most cases, the context is described in various ways to cover most human activities. Furthermore, the national ICT policies argue for a positive relationship between the information society and development. The research explores the Human Development Index (HDI), as a measure of development, was impacted by the adoption of the national ICT policies. HDI is a composite measure of human development that was first reported in the United Nations Development Programme's Human *Development Report* for 1990 (United Nations Development Programme (UNDP) 2015:1–4). In terms of this approach, development should not simply be measured in terms of economic growth but rather in terms of the people's ability to live long and healthy lives.

Table 4-3 presents the HDI for the SADC countries over the period 2000 to 2015, highlighting the year in which the national ICT policy was adopted. The table also indicates the change in the index for the specific country between 2014 and 2000.

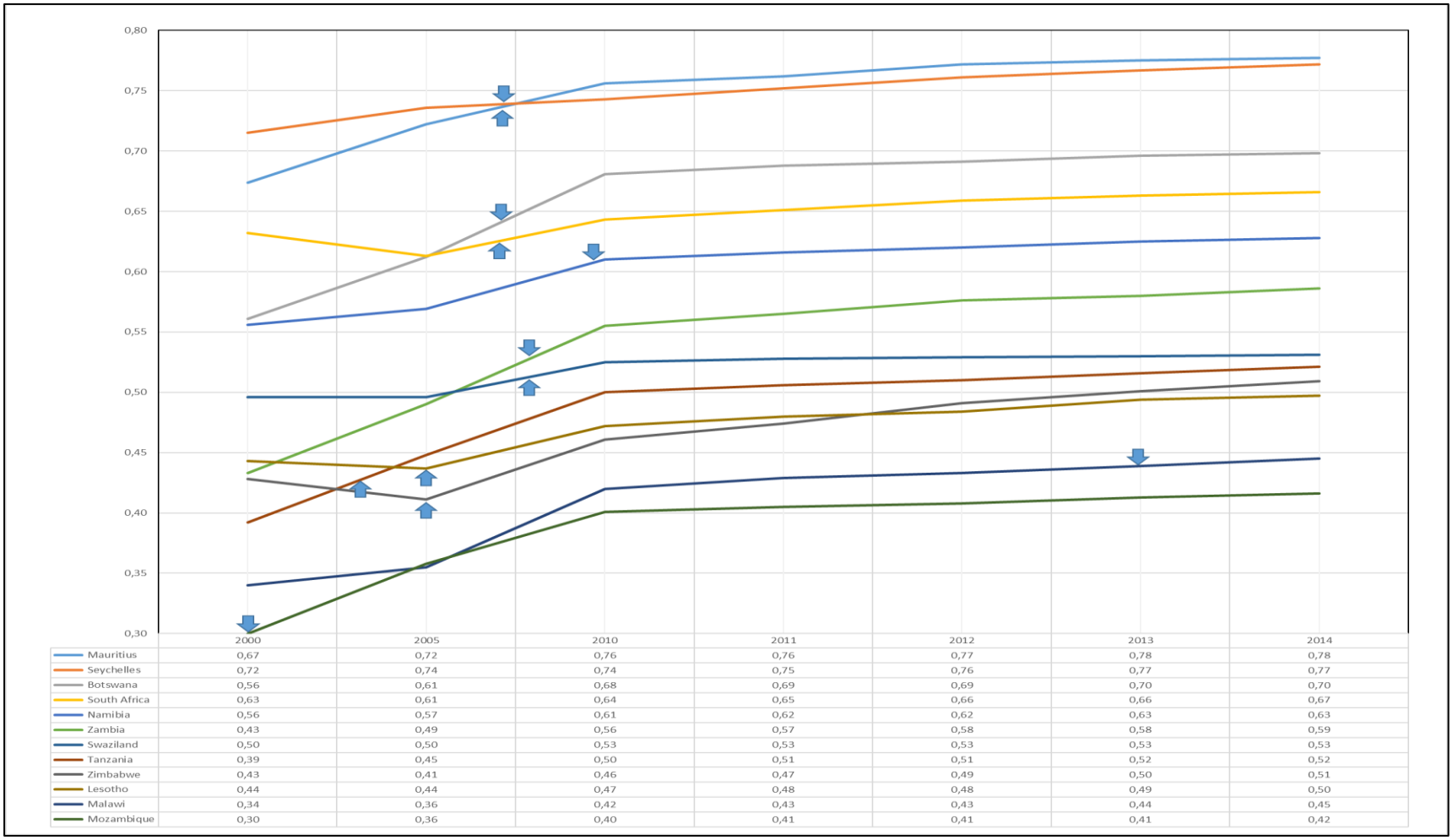
Table 4-3: The HDI of SADC countries relative to adoption of national ICT policies

| Country | | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | HDI Change (15yrs) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Botswana | | 0,56 | | | | | 0,61 | | *x* | | | 0,68 | 0,69 | 0,69 | 0,70 | 0,70 | 0,09 |
| Lesotho | | 0,44 | | | | | ***0,44*** | | | | | 0,47 | 0,48 | 0,48 | 0,49 | 0,50 | 0,06 |
| Malawi | | 0,34 | | | | | 0,36 | | | | | 0,42 | 0,43 | 0,43 | ***0,44*** | 0,45 | 0,09 |
| Mauritius | | 0,67 | | | | | 0,72 | | *x* | | | 0,76 | 0,76 | 0,77 | 0,78 | 0,78 | 0,06 |
| Mozambique | | ***0,30*** | | | | | 0,36 | | | | | 0,40 | 0,41 | 0,41 | 0,41 | 0,42 | 0,06 |
| Namibia | | 0,56 | | | | | 0,57 | | | | *x* | 0,61 | 0,62 | 0,62 | 0,63 | 0,63 | 0,06 |
| Seychelles | | 0,72 | | | | | 0,74 | | *x* | | | 0,74 | 0,75 | 0,76 | 0,77 | 0,77 | 0,04 |
| South Africa | | 0,63 | | | | | 0,61 | | *x* | | | 0,64 | 0,65 | 0,66 | 0,66 | 0,67 | 0,05 |
| Swaziland | | 0,50 | | | | | 0,50 | *x* | | | | 0,53 | 0,53 | 0,53 | 0,53 | 0,53 | 0,04 |
| Tanzania | | 0,39 | | | *x* | | 0,45 | | | | | 0,50 | 0,51 | 0,51 | 0,52 | 0,52 | 0,07 |
| Zambia | | 0,43 | | | | | 0,49 | *x* | | | | 0,56 | 0,57 | 0,58 | 0,58 | 0,59 | 0,10 |
| Zimbabwe | | 0,43 | | | | | ***0,41*** | | | | | 0,46 | 0,47 | 0,49 | 0,50 | 0,51 | 0,10 |

Source: (United Nations Development Programme (UNDP) 2015:212–215); own analysis

As shown in Table 4-3, most of the policies were adopted between 2005 and 2007; however, there does not seem to be a relationship between the adoption of the national ICT policies and any improvement in the HDI of an SADC country. A country like Malawi, which had only adopted its policy in 2013, has increased its HDI by 0.09 points, whereas Mozambique with a policy adopted in 2000 has one of the lowest improvements in HDI. The lowest HDI changes are those of Seychelles and Swaziland; however, these countries have had national ICT policies for relatively long periods. Relative to other SADC countries, Seychelles has a high HDI and Swaziland has a middle-level HDI, thus the change in HDI may not be ascribed to their initial HDI.

Figure 4-1 provides a pictorial representation of the same information provided in Table 4-3. The blue arrows in the figure are aligned to the year in which the country has adopted its national ICT policy.




| | 2000 | 2005 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|
| Mauritius | 0,67 | 0,72 | 0,76 | 0,76 | 0,77 | 0,78 | 0,78 |
| Seychelles | 0,72 | 0,74 | 0,74 | 0,75 | 0,76 | 0,77 | 0,77 |
| Botswana | 0,56 | 0,61 | 0,68 | 0,69 | 0,69 | 0,70 | 0,70 |
| South Africa | 0,63 | 0,61 | 0,64 | 0,65 | 0,66 | 0,66 | 0,67 |
| Namibia | 0,56 | 0,57 | 0,61 | 0,62 | 0,62 | 0,63 | 0,63 |
| Zambia | 0,43 | 0,49 | 0,56 | 0,57 | 0,58 | 0,58 | 0,59 |
| Swaziland | 0,50 | 0,50 | 0,53 | 0,53 | 0,53 | 0,53 | 0,53 |
| Tanzania | 0,39 | 0,45 | 0,50 | 0,51 | 0,51 | 0,52 | 0,52 |
| Zimbabwe | 0,43 | 0,41 | 0,46 | 0,47 | 0,49 | 0,50 | 0,51 |
| Lesotho | 0,44 | 0,44 | 0,47 | 0,48 | 0,48 | 0,49 | 0,50 |
| Malawi | 0,34 | 0,36 | 0,42 | 0,43 | 0,43 | 0,44 | 0,45 |
| Mozambique | 0,30 | 0,36 | 0,40 | 0,41 | 0,41 | 0,41 | 0,42 |

Figure 4-1: Visual depiction of HDI changes from 2000 to 2014 relative to the adoption of national ICT policies

Source: (United Nations Development Programme (UNDP), 2015:212–215); own analysis)

In interpreting the above figure, it should be noted that the X-axis, which represents the years, is not balanced. There are no HDI values for the four years between 2000 and 2005, and between 2005 and 2010, whereas from 2010 to 2014 the HDI values are available for each year. Although this fact distorts the graph, it does not hide the tendency of the increasing HDI over the years. The figure shows that except for Lesotho, South Africa and Zimbabwe, particularly from 2000 to 2005, the HDI scores of all the SADC countries have increased or remained stable. From a visual inspection of Figure 4-1, there does not seem to be any relationship between when the national ICT policy was adopted and a change in the HDI (or its slope).

Another way of expressing this argument is presented in Figure 4-2, which provides a scatter graph that compares the number of years the national ICT policy has been in place with the change in the HDI of the SADC countries in the years between 2000 and 2014.

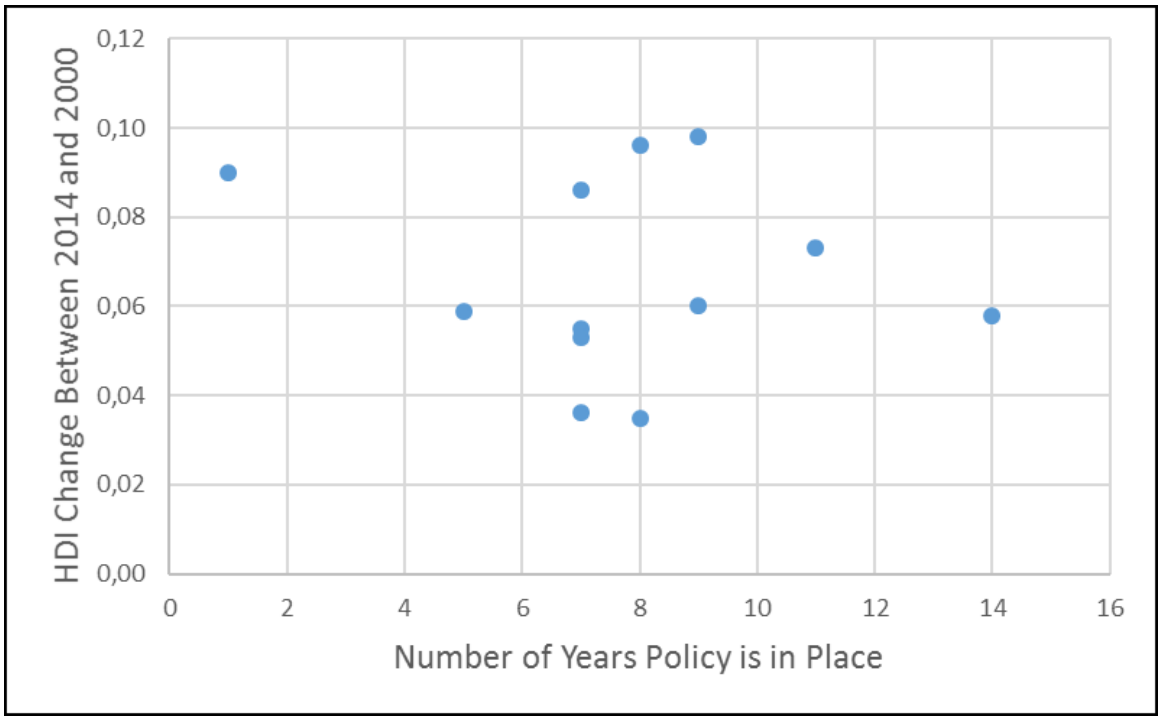



Figure 4-2: HDI change vs number of years policy is in place

Source: (United Nations Development Programme (UNDP) 2015:212–215); own analysis)

Figure 4-2 illustrates the lack of a relationship between the number of years the national ICT policy has been in place and the change in the HDI of the SADC countries in the years between 2000 and 2014. This researcher has computed the Pearson's correlation (P) between these two variables to be -0.149, which is nearer to zero. This indicates a very weak relationship between these two variables. The Coefficient of Correlation will return a figure between -1 and 1, where -1 and 1 represent a perfect correlation, which is an inverse relationship or a direct relationship between the two variables, and zero represents no relationship at all (Lind, Marchal & Wathen 2008:460–462). Therefore, it was concluded that for the SADC countries, there was no relationship between the length of time that elapsed from the adoption of the national ICT policy and the improvement or change in HDI between the years 2000 and 2014. Research question one, which enquires on the policy instruments considered by various SADC countries in their effort to build the information society suggests the possibility that the national ICT policies do not on their own drive the information society.

## 4.4 Policy instruments that the SADC countries consider to be key in the building of the information society

The national ICT policies, as road maps, refer to other strategies, policies, plans or programmes that contribute towards the development of the information society. In this sense, these policies provide some answer to the second research question which asks, "What is the nature of the package of strategies, policies, plans and programmes adopted by various SADC countries in their effort to build the information society?" In the words of the policy of the Seychelles, "This ICT policy is just one of the instruments, albeit an increasingly influential one, to improving the level of development and quality life of all the citizens of Seychelles." (Government of Seychelles 2007:3). Thus, the national ICT policies do not stand on their own as they are supporting other strategies, policies, plans and programmes and are supported by them.

What has been observed is that some of the national ICT policies base themselves on and align themselves to some international documents or agreements. It is the alignment to the international documents that is addressed first. Many of the national ICT policies of the SADC countries attribute their origin or align their direction to

some international and continental documents or programmes as summarised in Table 4-4.

Table 4-4: SADC national ICT policies' reference to international documents

| Country | WSIS | AISI | MDG[4] | SADC Declaration on ICT | SADC Protocol | NEPAD | UN-ICT Task Force | DOT Force |
|---|---|---|---|---|---|---|---|---|
| Botswana | No | No | No | No | No | No | No | No |
| Lesotho | No | No | No | No | No | No | No | No |
| Malawi | No | No | Yes | No | No | No | No | No |
| Mauritius | Yes | No | No | No | No | No | No | No |
| Mozambique | No | No | No | No | No | No | No | No |
| Namibia | Yes | No | No | Yes | Yes | Yes | No | No |
| Seychelles | No | No | No | No | No | No | No | No |
| South Africa | Yes | No | Yes | No | No | Yes | No | No |
| Swaziland | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Tanzania | No | No | No | No | No | No | No | No |
| Zambia | Yes | Yes | Yes | No | No | Yes | No | No |
| Zimbabwe | Yes | No | Yes | No | No | No | No | No |

(Source: Government of Botswana 2007; Government of Seychelles 2007; Kingdom of Swaziland 2006; Ministry of Communications and Transport (Republic of Zambia) 2006; Ministry of Communications and Transport (The United Republic of Tanzania) 2003; Ministry of Communications Science and Technology (Kingdom of Lesotho) 2005; Ministry of Information Technology and Telecommunications (Republic of Mauritius) 2007; Mozambique (Republic of) 2000; Namibia Ministry of ICT 2008; Republic of Malawi 2013; Republic of South Africa 2007; Zimbabwe Ministry of Science and Technology Development 2005)

[4] The MDGs have been superseded by the sustainable development goals (SDGs) since 2015. The SDGs are discussed in section 2.4. Since all these policies were developed before 2015, they do not make any reference to the SDGs. The reference to the MDGs, however, is reflected in the table to correctly indicate the relationship between the national ICT polices of SADC countries and documents generated at an international level.

Table 4-4 indicates that the documents or programmes referred to by the national ICT policies is the World Summit on the Information Society (WSIS), followed by the Millennium Development Goals (MDGs) and then the New Partnership for Africa's Development (NEPAD). The other documents that are referred to by two or fewer policies relate to the African Information Society Initiative (AISI), the SADC Declaration on ICT, the SADC Protocol, UN-ICT Task Force and the Digital Opportunities Task-Force (DOT Force). Some of the countries' national ICT policy such as that of Namibia, Swaziland and Zambia, list other protocols, treaties and multi-national policies such as the COMESA ICT Policy. As stated in Chapter One, some of the SADC countries belong to other economic blocks; hence, reference to other regional bodies in their national ICT policy.

Figure 4-3 provides a summary of the prevalence of references to international instruments.

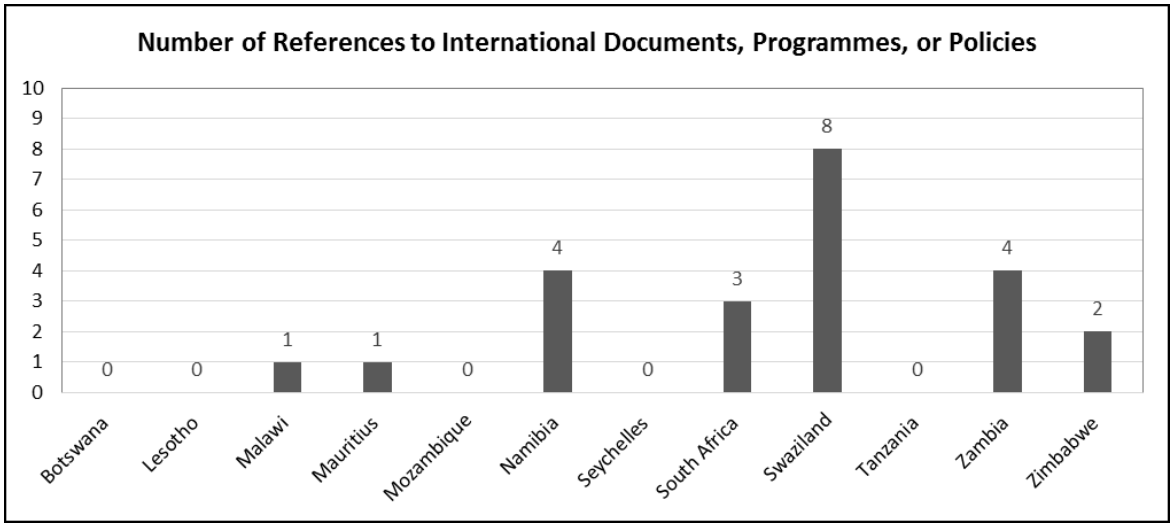



Figure 4-3: References to international documents, programmes or policies
Source: (Own Analysis)

This researcher noted that Botswana, Lesotho, Mozambique, Seychelles and Tanzania make no reference to any international documents, programmes or policies, whereas seven of the twelve countries refer to at least one. Swaziland seems to be referring to all the available international documents, programmes or policies. The SADC has adopted a protocol as well as a declaration on ICT, both of

which the Namibia and Swaziland ICT policies refer to as indicated in Table 4-4. Despite some similarities between policies of some of the countries, this researcher has not observed any inter-country cross-reference within the national ICT policies of the SADC countries.

Moving from the international arena to the national, this researcher noted that ICT policies refer to some form of national vision at the apex of some hierarchy. This researcher refers to a hierarchy not from an enforceability point of view, but rather from a conceptual point of view. Except for Mozambique and Seychelles, all the national ICT policies make specific reference to the country's development plan or vision as a foundation upon which they are built. Even the countries that do not provide a direct reference to a vision or development policy or plan emphasise the connection between their ICT policy and their country's developmental aspirations. Furthermore, to emphasise the strong link between the ICT policy and development programmes, the Seychelles policy has been coordinated by the Ministry of National Development.

Based on these visions, the countries have developed development policies or programmes. The visions expressed in the development policies are much broader and do not have to involve the information society as their core. In fact, the development of the information society tends to be directed at achieving this type of vision. Typically, national visions are intertwined with the national development strategies. Table 4-5 presents the national visions as per the national ICT policies.

Table 4-5: National visions presented by the national ICT policies

| Country | Link to a national vision (related to development) |
|---|---|
| Botswana | The national ICT policy is said to complement and build upon Vision 2016, which provides many of the key strategies essential for achieving Botswana's national development targets |
| Lesotho | The ICT policy enables Lesotho to achieve its development goals as articulated in the Lesotho Vision 2020 Policy Document and the Poverty Reduction Strategy Paper |
| Malawi | Vision 2020, the Malawi Growth and Development Strategy II is one of the policies that informs the ICT policy |
| Mauritius | The vision of the government is to make the ICT sector the fifth pillar of the economy and to transform Mauritius into a regional ICT hub |
| Mozambique | No direct reference to a national development policy or national vision; however, mention of ICT policy as having a bigger role of contributing to improving the conditions of life of Mozambicans |
| Namibia | This policy supports Vision 2030 and national development plans |
| Seychelles | No direct reference to a national development policy or national vision; however, mention is made of ICT policy contributing to national development |
| South Africa | National 2014 Vision which is articulated in the Manifesto of the ruling party that was adopted by the government |
| Swaziland | Contributes to the achievement of the Kingdom of Swaziland National Development Strategy (NDS) Vision 2022 |
| Tanzania | The Tanzania Development Vision 2025 envisages a nation imbued with five main attributes: high-quality livelihood; peace, stability and unity; good governance; a well-educated and learning society; and a strong and competitive economy capable of producing sustainable growth and shared benefits |
| Zambia | At the national level, the importance of ICT in national development is demonstrated by the approval of the ICT policy and the inclusion of ICT as a priority sector in the Fifth National Development Plan 2006-2010 |
| Zimbabwe | Vision 2020, "Zimbabwe should emerge a united, strong, democratic, prosperous and egalitarian nation with a high quality of life for all by the year 2020" |

(Source: Government of Botswana 2007; Government of Seychelles 2007; Kingdom of Swaziland 2006; Ministry of Communications and Transport (Republic of Zambia) 2006; Ministry of Communications and Transport (The United Republic of Tanzania) 2003; Ministry of Communications Science and Technology (Kingdom of Lesotho) 2005; Ministry of Information Technology and Telecommunications (Republic of Mauritius) 2007; Mozambique (Republic of) 2000; Namibia Ministry of ICT 2008; Republic of Malawi 2013; Republic of South Africa 2007; Zimbabwe Ministry of Science and Technology Development 2005)

There is no doubt from the excerpts in Table 4-5 that all the national ICT policies for SADC countries are directly associated with the national vision or the development plan of the respective country. Some of the policies, for example those for Malawi and Zimbabwe (Republic of Malawi 2013; Zimbabwe Ministry of Science and Technology Development 2005) have even suggested that the national development policies have identified ICTs as necessary and key drivers for the achievement of the developmental goals or visions of those specific countries.

Reading the national ICT policies, this researcher noted that these policies referred to other strategies, plans, policies or programmes. Sometimes this reference was generic and would state that the policy should be “Read with other policies” (Government of Botswana 2007). In some instances, this reference was specific to policies or legislation. In coding the national ICT policies, it became clear that legislation in the form of parliamentary acts is also a key element of building the information society. De Coning and Wissink (2011:15–16) show where legislation sits within the various typologies of policy. As depicted in Figure 4-4, this researcher observed that the different policies made generic reference to other policies, to some specific legislation or to specific policies.

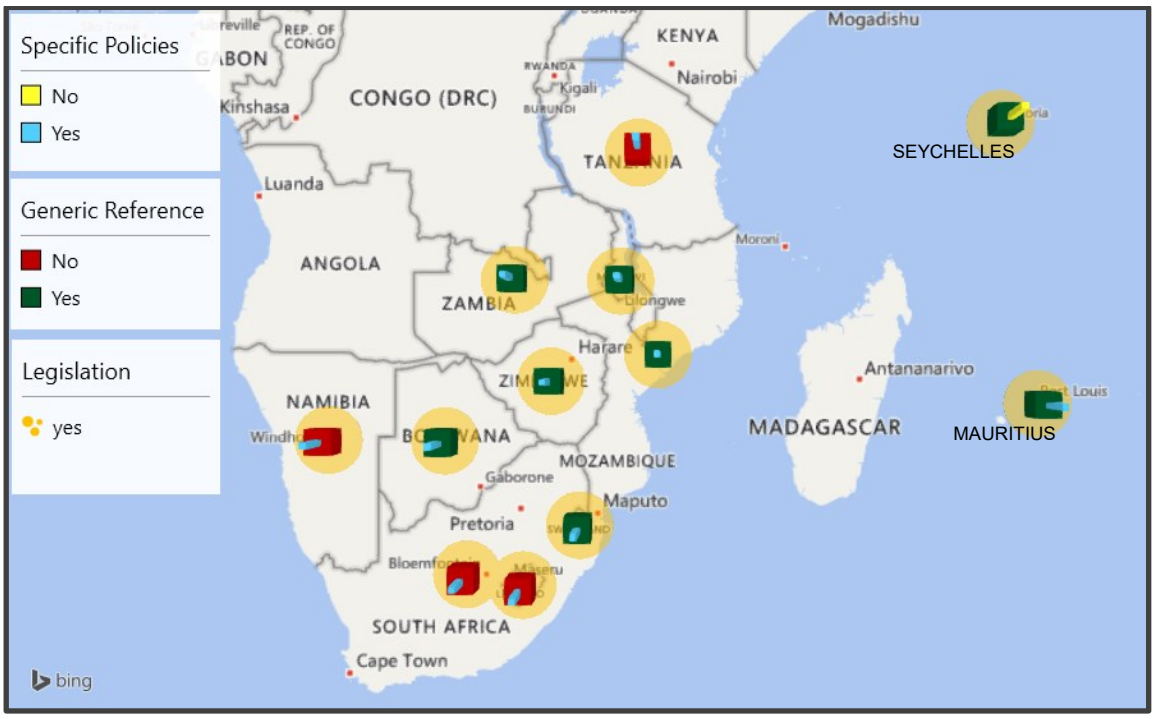



Figure 4-4: Reference in policies to legislation and other policies
Source: (Own Analysis)

As shown in Figure 4-4, all the countries make some reference to legislation and, except for Seychelles, all the countries' policies refer to at least one specific policy that is relevant to the information society. Furthermore, the policies for Lesotho, Namibia and South Africa do not make any generic reference to other policies. Seychelles seems to be the only country that does not make any reference to specific policies. This researcher reviewed the national ICT policy of the Seychelles again and confirmed that, except for the reference to the necessity to develop a comprehensive national ICT strategic plan, there is no reference to any specific policy (Government of Seychelles 2007). The fact that no specific policies are mentioned by the Seychelles ICT policy does not necessarily imply that the country does not intend to drive an agenda within the different societal sectors.

In addition to the national development programmes or policies discussed on page 127, the national ICT policies also entertain the important role played by other specific policies in building the information society. Rather than name the specific policies referred to by the national ICT policies, this researcher discusses the broad areas that these policies relate to. The detail of the specific policy areas is presented

in Appendix F, which shows that mostly these are the areas in which the countries intend to impact on their information society endeavours or expand ICTs. There are 21 specific policy areas that the national ICT policies refer to. All these 21 specific policy areas are grouped into five broad policy areas. Considering these broad policy areas, seven (58.33%) national ICT policies primarily relate to the ICT sub-sectors or dimensions of the information society, six (50.00%) on development, two (16.67%) on the political governance sphere, two (16.67%) on health and two (16.67%) on human resources development or education. Eleven (91.67%) of the twelve national ICT policies refer to at least one specific policy in a policy area.

With regard to the broad specific policy area on the information society or ICT, this researcher observed that the highest number of national ICT policies cited policies in the science and technology policy area. These were Malawi, South Africa, Tanzania and Zimbabwe. The second most predominantly mentioned specific policy area is broadcasting, which was mentioned in the policies for Malawi, Namibia and Tanzania. This specific policy area was equivalent to that of economic development/ industrialisation which fell in the broad policy area of development. The rest of the 21 policies in the specific policy areas were mentioned by two or fewer countries' national ICT policies.

As shown above, this researcher observed that when making specific references to other policies, not all countries consider policies in a similar policy area to be significant for building the information society. Each country has developed a set of specific policies to address its circumstances. South Africa is an example of this through its black economic empowerment policies aimed at increasing the participation of blacks in the ICT industry (Republic of South Africa 2007:23, 64). Another example is Botswana, which, based on the sparseness of the population, has developed a National Settlement Policy that determines which settlements the government is committed to provide basic infrastructure and services for (Government of Botswana 2007; Pheko 2012). In addition to the specific policies the national ICT policies refer to, all the policies refer to legislation or other governance frameworks.

This researcher has observed that all the national ICT policies of the SADC countries state that their legislation should be enhanced in the context of the information society. The national ICT policies for the SADC countries seem to project a reliance on existing or planned legislation to enhance regulation, promote safety or protection, promote the usage of ICTs and act to address all these objectives. Despite all the policies commenting on the importance of legislation, the policies have a different slant and emphasis. All these are graphically presented in Figure 4-5.

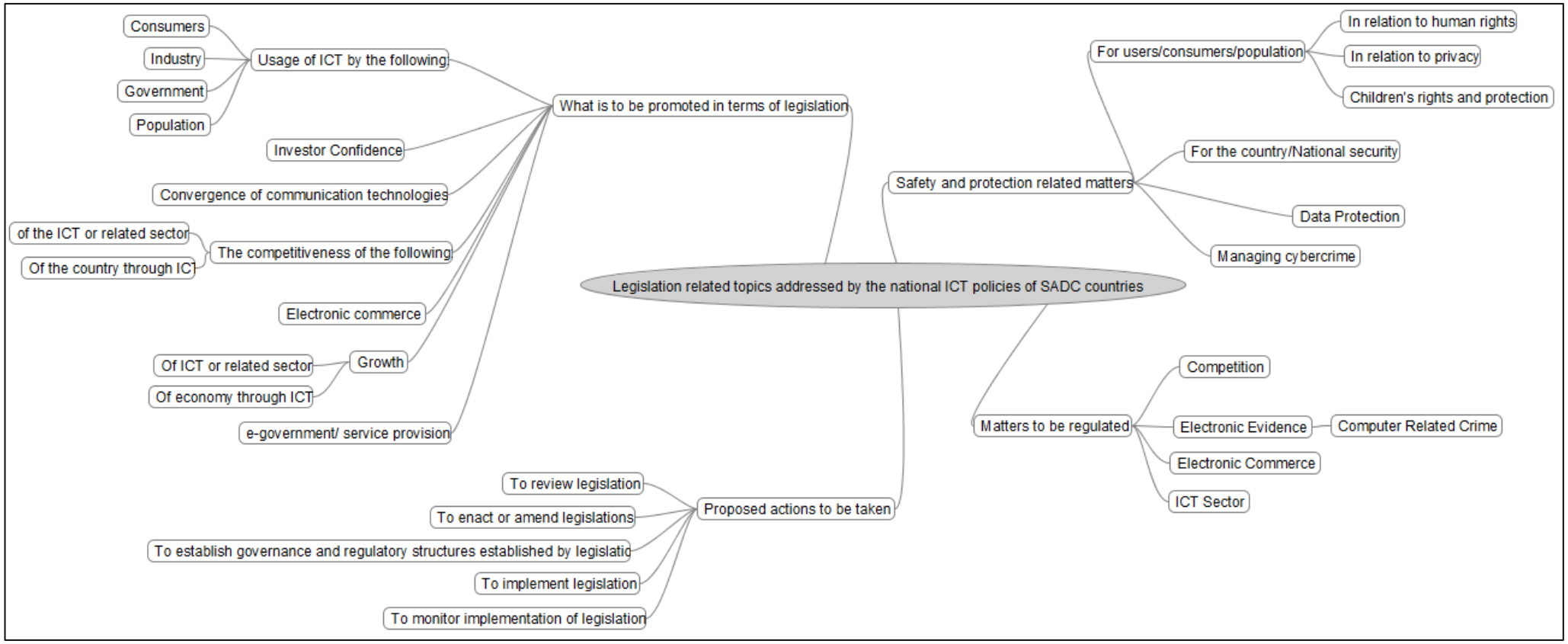



Figure 4-5: Mind-map of the key topics identified in the national ICT policies of SADC countries related to legislation

Source: (Own Analysis)

Figure 4-5 depicts the topics that the national ICT policies for SADC countries refer to in the context of legislation. Based on the coding process, these have been categorised by this researcher into four areas, namely regulation, actions, promotion, and safety and protection. Regulation can also be considered as a super category in the sense that it encompasses the other three categories.

In terms of the national ICT policies, legislation addresses, or should address, the regulation of different aspects such as competition, how the ICT sector operates, electronic commerce, the introduction of computer-related crimes and how electronic evidence is handled. In addressing safety and related issues, the policies highlight the protection of the population as consumers of ICT from maladies such as cybercrime. The policies highlight the use of legislation to protect children as a key vulnerable group and promote human rights. Privacy and data protection are also key points referred to in the policies. All these regulation-related elements are expected to promote the information society within the SADC countries.

In the national ICT policies of the SADC countries, it appeared that the policy makers felt that most of the legislation does not address security and safety-related aspects adequately. These policies intend to ensure that as ICTs are utilised more, individual privacy is not compromised, data can be communicated securely and, in some countries such as Malawi (Republic of Malawi 2013:12), the policies required ICT-related legislation to contribute to the security of the country. The Zimbabwe policy summarises what the touted changes in the law need to achieve. It highlights that the focus should be on “privacy, security, cybercrimes, ethical and moral conduct, encryption, digital signatures, copyrights, intellectual property rights and fair trade practices” (Zimbabwe Ministry of Science and Technology Development 2005). One of the aspects observed by this researcher is that some of the policies refer to the protection as well as the promotion of human rights through legislation related to ICT. This researcher not only noted the reference by the national ICT policies to legislation that should address aspects only related to regulation and safety. The national ICT policies also consider legislation as being responsible for the promotion or encouragement of the use of ICT, convergence, growth, competitiveness, e-commerce, e-government and the provision of government services.

All the policies have been coded as ACCESS TO ICT PRODUCTS AND SERVICES, a code that relates to the intention of the national ICT policy to promote the increase in the use of ICT by different sectors of society. Another intended outcome of legislation relates to the promotion of the usage of ICT by industry, government and the population as users of government services and as consumers of industry products and services. The Lesotho policy expresses a key principle that guides its information society programmes as a requirement for legislation "that promotes the use of electronic environments for both consumers and industry" (Ministry of Communications Science and Technology (Kingdom of Lesotho) 2005:16). In analysing the policies, this researcher noted that the formulators of the policies were of the view that appropriate legislation is projected to increase the confidence of users and lead to the increased use of ICTs that would provide an expectation of a vicious circle that would increase additional ITC-related services, additional investments in ICT infrastructure and the confidence of potential investors, thus growing the economies of the respective countries.

Convergence was directly referenced in nine of the twelve national ICT policies. Some of these policies such as those of Swaziland (Kingdom of Swaziland 2006:60) express only the view that legislation is expected to promote and support the convergence of technologies, whereas others such as the Namibian policy (Namibia Ministry of ICT 2008:8) focuses on both the need for legislation to directly promote and support the convergence of technologies and the convergence of the legislation itself. The Namibian policy is more far-reaching with respect to convergence, as the purpose of the policy itself is couched within the context of convergence (Namibia Ministry of ICT 2008:6). In terms of this policy, technological convergence is one of the key drivers for them to promote effective competition through its licencing regime that will be legislatively enforced (Namibia Ministry of ICT 2008:11).

All the SADC national ICT policies were coded as COMPETITION AND COMPETITIVENESS, five of these policies have identified the importance of utilising legislation to promote competition. These are the national ICT policies for Botswana, Lesotho, Namibia, Seychelles and Swaziland. Competition and competitiveness have three dimensions that the national ICT policies for the SADC

countries seem to relate to, which are the competitiveness of players in the ICT sector, the competitiveness of the ICT sector relative to other sectors within the economy and, lastly, the competitiveness of the economy or other economic sectors of the country. This researcher has observed that not all policies seem to refer to all these dimensions; however, whatever dimensions the policy addresses, it links it to the growth to the economy and, consequently, to the improvement of the lives of the populace.

The national ICT policy of Zambia represents most of these policies well regarding the growth of the ICT sector in relation to the regulatory framework and other dimensions. The policy expresses the policy goal of developing the ICT sector as follows (Ministry of Communications and Transport (Republic of Zambia) 2006:32):

> To develop a competitive local ICT industry supported by a clear policy roadmap; fair and transparent regulatory framework and pro-investor market conditions resulting in the effective participation of the private sector in value-adding, export-oriented services; serving as the main engine for accelerating the development of the local economy.

The above quote also indicates the consequent benefit to the economies of the respective countries.

A specific text search was done by this researcher in all the national ICT policies and none of the policies refer in any way to social media. Based on the increased growth of the use of social media, this researcher had expected the policies to link legislation and social media. This could not be, since the policies were drafted before the explosion of social media. In the national ICT policies, the key use of ICT was promoted as primarily for the different aspects of e-government and e-commerce. In terms of the policies, appropriate legislation would promote e-government as well as e-commerce. Legislation plays a key role in encouraging the increased usage of ICTs for e-government and e-commerce through several mechanisms. These include making certain activities legal when conducted through electronic means, building and enforcing regulatory mechanisms for ICT role-

players and their activities, requiring mandatory measures that will improve security of ICT technologies and providing confidence in electronic systems.

One of the key legal interventions that the ICT policies identify relates to the introduction of laws that will ensure that documents and actions completed through electronic measures are treated in a legally similar manner to those that traditionally utilised paper. This includes the provision of government services as well as services provided by the private and social sector. The Botswana policy intends to introduce amendments to the country's legislation such as the Criminal Procedure and Evidence Act, the Authentication of Documents Act and the Foreign Documents Evidence Act to achieve the said objective (Government of Botswana 2007:22).

In addition to contributing to the protection of citizens, legislation that legitimises electronic or digital signatures also authorises new practices that were not possible prior to the advancement of ICT. This legalisation of electronic/ digital signature also promotes to the increased usage of ICTs.

With regard to the role of legislation for the encouragement of the use of ICT through improved safety and security, the Mozambique policy covers this as follows (Mozambique (Republic of) 2000:20–21):

> Thus, as a result of errors, deliberate malice or abuse of ICTs, a lot of damage has been caused, introducing doubts about their benefits. … the State … should take the necessary steps to ensure that … the credibility and integrity of the information and information systems, … the protection and safety of the citizens against fraud, extortion, sabotage, terrorism, espionage and violation of fundamental rights, should be ensured by **improving existing or creating new legislation** [my emphasis].

All the policies express the importance of appropriate legislation to promote increased usage of ICTs, hence various actions are highlighted in the policies.

Another key role of legislation that the national ICT policies refer to as observed by this researcher is that of regulation. The objectives of legislation include the regulation of competition, electronic commerce, the ICT sector, the handling of electronic evidence, as well as how the ICT regulatory regime is set up. This section focuses on the observation that the national ICT policies link legislation with the establishment and management of regulatory bodies rather than with legislation as a regulatory instrument.

The national ICT policies of most SADC countries, including Lesotho, Namibia, Seychelles, South Africa, Swaziland, Zambia, Tanzania and Zimbabwe characterise the ICT environment as consisting of the policy environment, the regulatory environment and the operating environment (this is the environment that interfaces with consumers and other users of ICT to access or communicate information). Each of these are the domains of different role players. Typically, the national ICT policies ascribe to government the role of policy making and have established or intend to establish a regulator to take up responsibility for the regulatory environment.

Although the regulatory body could be considered part of government, the policies analysed consider these bodies as independent and separate from the policy-making structures and the operating entities. The nature of regulators which the policies aspire to should be a converged regulator, as opposed to separate communications and broadcasting regulators. The Lesotho policy particularly states that the converged regulator shall be responsible for regulating "…Telecommunications, Information and Communication Technologies as well as Broadcasting, Radio frequency and Postal Services" (Ministry of Communications Science and Technology (Kingdom of Lesotho) 2005:24). The independent and converged regulator, among other things, would be responsible for the making and enforcement of rules for the provision of ICT products and services, allocation of spectrum and ensuring fair competition between and among operators for the protection of ICT consumers. A fundamental consideration expressed in the policies was that the regulatory role should be independent and not in any way be part of any operators' remit.

In achieving the objective of separating the regulatory role from any ICT operator, SADC countries allow for separate operating companies within the ICT space. These are mostly privatised and have no regulatory role. Botswana policy is dealing with this matter differently in that it focuses on programmes to promote the information society without making any direct reference to the role of regulators or the nature of ICT operators. The policy makes a cursory reference to parallel policy initiatives that include telecommunications liberalisation and the establishment of "an independent Competition Authority with the mandate and powers to deal with anti-competitive conduct" in all sectors of the Botswana economy (Government of Botswana 2007:21). The Malawi policy, on the other hand, recognises that the country had already dealt with some of these issues, and thus did not raise the liberalisation of the ICT operating environment in its policy (Republic of Malawi 2013:2). Many of the national ICT policies analysed highlight that operators or service providers in the ICT space should be liberalised. In other words, the restrictions that were previously imposed on the establishment and operation of ICT, particularly telecommunication companies, would be minimised. The liberalisation of ICT regulations is expected to lead to better regulation of the ICT sector and improved competition. Furthermore, the introduction of rules that govern what counts as electronic evidence of transactions, would lead to a better e-commerce environment. However, these would come to nought unless they are implemented effectively.

This researcher has observed that all the national ICT policies of the SADC countries refer to some form of action related to legislation. Although the actions are different depending on the perceived adequacy of the legislation, collectively they include, firstly, to review the current legislation to understand the legislative environment relative to the information society. Secondly, to propose the enactment of new legislation or the amendment of current legislation in support of the rationale discussed in Section 4.3. Thirdly, to implement the new or amended legislation, a key component of which is the establishment or strengthening of information society-related governance or regulatory structures and processes. Lastly, to monitor the implementation and effectiveness of the relevant legislation and policies. Of the 12 SADC countries for which the national ICT policies were reviewed, seven referred to reviewing the legislation; all referred to the enactment or amendment of

legislation; six referred to the implementation of legislation and four referred to monitoring the implementation of legislation. Except for three countries, Mozambique, Namibia and Zimbabwe, all the countries have reviewed or intend to review some of their ICT legislation. In terms of the Botswana policy, the review of legislation is aimed at identifying actions to be taken to introduce laws and structures "that will enable a secure and trusted legal environment which adequately supports and protects increased levels of electronic interaction" (Government of Botswana 2007:3).

Even though some of the countries do not make direct reference to a review of legislation, all the SADC countries will undertake some form of intervention within the legislative space. The key concerns within the legislative sphere related to the following themes:

- Telecommunications liberalisation and the introduction of competition
- Regulation of electronic communications
- Alignment or harmonisation of legislation with the global "norm"
- Addressing the convergence of technology
- Protection of privacy and security
- Establishment of regulatory structures
- Licensing of ICT service providers
- Universal Services Fund
- Regulation of access to information

In this section (4.4), this researcher reported that there is a package of strategies, policies, plans and programmes that was adopted by various SADC countries in their effort to build the information society. Since all 12 the countries refer to other policies and legislation that are required to achieve the goal set out in the national ICT policies, it has been revealed that the national ICT policies do not stand on their own; they form the core of other policy instruments in the building of an information society. The next section discusses the key limiters and enhancers of access to ICTs not yet discussed so far and hence impacting on the implementation of the information society programmes within the SADC countries. Memo-writing has

significantly assisted this next part of the research to address the formulation of a grounded theory. Appendix G provides examples of the memos that this researcher generated throughout the coding process.

## 4.5 Key concepts within the national ICT policies that are related to the success of information society within SADC countries

All the SADC national ICT policies directly or indirectly consider the lack of an overarching national ICT policy or an updated policy as a key weakness that their specific country has had to address and thus the finalisation of such a policy has been considered a priority for the building of an information society. It is for this reason that the finalisation of a national ICT policy is seen and treated with such great breakthroughs. As an example, the foreword of the Seychelles national ICT policy (2007:2) states that:

> This is the first time that a comprehensive ICT Policy has been elaborated to realise the vision of government in the making of an Information-based economy and of an information society in our country. … [The] ICT Policy document is an important step in determining the principles and objectives to be achieved.

Furthermore, some policies have become obsolete, which has generated a public outcry. This has been the case with Zimbabwe (Rutsito 2015). In other words, the absence or obsolescence of national ICT policies is perceived as a key weakness for SADC countries and their existence is perceived as a strength. The policies themselves, as an embodiment of the views of the policy makers, identify several strengths and weaknesses in the implementation of information society programmes within their own countries, which are discussed hereunder. The high-level selective codes outline what the policies are saying and are presented in Figure 4-6.

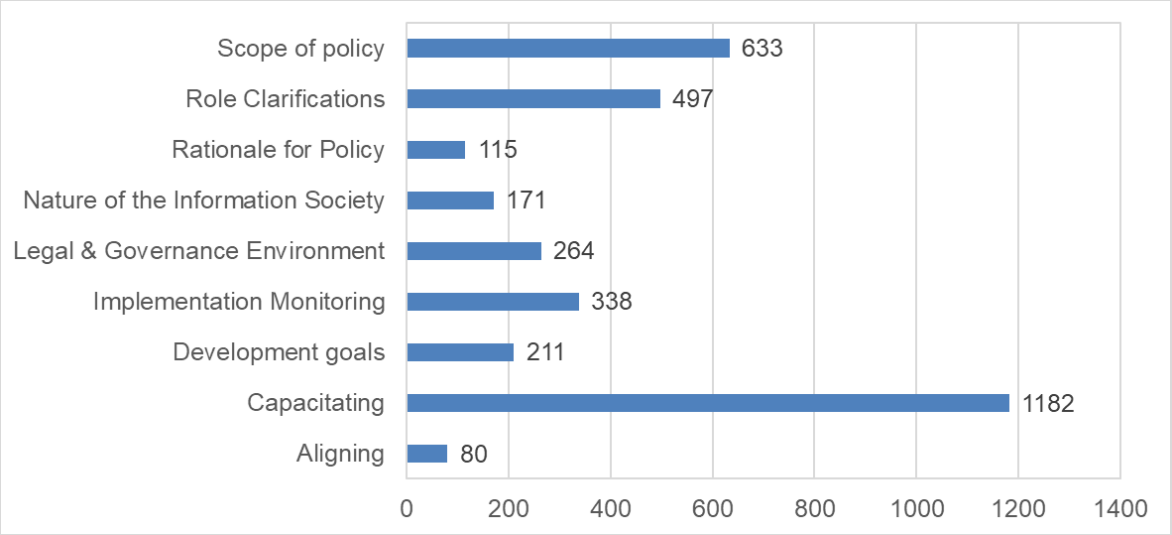



Figure 4-6: Relative dominance of the selective codes for the national ICT policies of SADC countries

In Figure 4-6, the most prevalent codes are CAPACITATING, SCOPE OF POLICY, ROLE CLARIFICATIONS, IMPLEMENTATION MONITORING and LEGAL AND GOVERNANCE ENVIRONMENT. Most of the codes have been discussed previously in this chapter, except for CAPACITATING and LEGAL AND GOVERNANCE, ROLE CLARIFICATION and IMPLEMENTATION MONITORING. The last three will be discussed under the theme of GOVERNANCE/ GOVERNING. The code labelled as CAPACITATING appears to have most of the codes for all the national ICT policies of the SADC.

### 4.5.1 Capacitating – Addressing limiters to access to ICTs

The concept of CAPACITATING as utilised by this researcher refers to efforts by role players to increase the capacity, capability and propensity of a society to productively make use of ICTs (ACCESS TO ICT PRODUCTS AND SERVICES). In analysing the memos associated with codes such as HUMAN RESOURCES, AFFORDABILITY, FUNDING, UNIVERSAL SERVICE FUNDING and SCARCITY OF RESOURCES, this researcher generated the CAPACITATING code, which is discussed in this section. The national ICT policies and related strategies do not necessarily directly flag the limiters and enhancers of achieving the information society as such. This researcher has mostly extracted these from reading these policies and the literature. It is these limiters or enhancers that form the basis of the actions that the policies or strategies put forward as required. Those that the

policymakers perceive as being key strengths and weaknesses are what the policies focus on. Through the coding process, CAPACITATING has emerged as a core category.

Through the selective coding process, this researcher has consolidated several other codes with the codes presented in Table 4-6. With regard to CAPACITATING, the codes that have been abstracted are listed in Table 4-6.

Table 4-6: Codes related to CAPACITATING

| Codes | Main issue addressed |
|---|---|
| • ACCESS TO ICT PRODUCTS AND SERVICES<br>• INFORMATION ACCESS<br>• PERVASIVENESS OF ICT OR IT<br>• CONNECTIVITY<br>• BROADBAND<br>• INFRASTRUCTURE<br>• CONTENT<br>• DIGITAL DIVIDE | Access to appropriate infrastructure and relevant content |
| • HUMAN RESOURCE DEVELOPMENT | Development of knowledge, skills and attitudes |
| • SOCIAL GROUP TARGETING | Social groupings that need attention |
| • AFFORDABILITY<br>• FUNDING<br>• UNIVERSAL SERVICE FUNDING<br>• SCARCITY OF RESOURCES | Bringing about sufficient financial and material resources |
| • QUALITY OF SERVICE<br>• STANDARDS AND GUIDELINES | Promoting better ICT services |

All the policies raise the challenge that the people have less access to ICT products and services and hence inadequate ability to create, acquire, store or transmit relevant information. The policies were coded as ACCESS TO ICT PRODUCTS AND SERVICES to reflect this aspect. The policies provided several reasons for this inadequate access, which include poor infrastructure, deficiency of products and services, no sufficient content that is relevant to the local people, lack of skills to produce or consume ICT products and services, high cost of access, poor regulation, lack of levels of trust and confidence in ICTs, as well as other culture-related factors impacting on marginalised groups. All these contributing factors were also coded separately as shown in Table 4-6. To address these, the policies

introduce measures that contribute to what this researcher considers as CAPACITATING.

On the other hand, access to ICTs is increasing, as presented by the Malawian example, which shows a significant increase in access to the internet, particularly through mobile devices, albeit concentrated in the urban areas (Republic of Malawi 2013:2). Despite this increase in access, access is still both objectively and comparatively low, hence the continued relevance of the digital divide in almost all national ICT policies that were analysed. Only the policy of the Seychelles does not refer to the digital divide. The rest of the policies see the government and the rest of the public sector as providing a platform and thus opportunities to counter these limitations.

The number of codes in Table 4-6 that refer to access to appropriate infrastructure and relevant content have led to the conclusion that the lack of ICT infrastructure and content is one of the leading causes of inadequate access to the internet as perceived by the drafters of the national ICT policies that were part of this study. These policies thus argue that increasing the quantity and quality of the ICT infrastructure and content is a key measure to increase access to ICT products and services.

Lack of knowledge, skills and other capacity to access what is available and to expand the necessary infrastructure is considered by the national ICT policies of the SADC counties as the next key issue. There is not a single country policy that does not address this aspect, and in not a fleeting manner. As shown in Table 4-7, the coding addressing development of knowledge, skills and attitudes is the most dominant after that related to access to appropriate infrastructure and relevant content.

Table 4-7: Relative dominance of the coding of the main issues addressed in the coding for CAPACITATING

| | **Access to appropriate infrastructure and relevant content** | **Development of knowledge, skills, and attitudes** | **Social groups that need attention** | **Bringing about sufficient financial and material resources** | **Promoting better ICT services** |
|---|---|---|---|---|---|
| Botswana | 7 | 1 | 2 | 0 | 0 |
| Lesotho | 83 | 37 | 25 | 13 | 3 |
| Malawi | 27 | 14 | 3 | 5 | 2 |
| Mauritius | 33 | 15 | 0 | 2 | 3 |
| Mozambique | 49 | 27 | 7 | 14 | 3 |
| Namibia | 47 | 14 | 4 | 9 | 7 |
| Seychelles | 6 | 11 | 1 | 0 | 0 |
| South Africa | 85 | 53 | 22 | 23 | 5 |
| Swaziland | 53 | 30 | 15 | 22 | 5 |
| Tanzania | 60 | 27 | 1 | 8 | 9 |
| Zambia | 114 | 72 | 39 | 21 | 17 |
| Zimbabwe | 28 | 23 | 12 | 7 | 5 |
| Total Codes | 592 | 324 | 131 | 124 | 59 |

Table 4-7 depicts the number of codes that are associated with the main issues related to the coding for CAPACITATING. For instance, in the Botswana policies, this researcher coded the issue of “Access to appropriated infrastructure and relevant content” seven times. What Table 4-7 suggests, is that when coding the national ICT policies, this researcher noted that most of the policies raised five main issues that related to CAPACITATING, and the order of priority corresponded with the amount of codes they were coded in.

In analysing the national information society policies, this researcher has observed that the policies are directing their capacitating programmes to the different sectors in the economy as well as the social categories within a society. In order to improve a country’s economy, countries tend to determine which sectors of the economy they need to focus on. On the other hand, it is also important to determine which groups a society considers prioritising in their development agenda. The next sub-section first discusses the findings related to the different sectors in the economy, followed by a discussion of the social categories.

#### 4.5.1.1 Sectors in the economy

When analysing the national ICT policies, this researcher noted that these policies refer to economic sectors such as tourism, mining, education, agriculture, health, etc. To discuss the sector on which the policies focus, this researcher had to understand what a sector is. The concept of a sector is utilised in different ways; in ordinary conversation there is often reference to public sector, private sectors, education sector, health sector or sector headquarters. Furthermore, there is reference to economic sectors such as tourism, mining and manufacturing. This researcher utilised sector to refer to a grouping for similar type economic activities.

The base which this researcher used is the International Standard Industrial Classification of all Economic Activities (Revision 4) (United Nations Department of Economic and Social Affairs 2008) rather than the South African version that has been published by Statistics South Africa. While the latter appears to be more recent, it has been adapted to suit South African conditions (Statistics South Africa 2012:11) and, because this study is focusing on SADC countries, it would be more appropriate to utilise the international version.

The allocation of a specific focus area is based on this researcher's understanding of what the national ICT policy states with regard to what economic area it intends to focus on. This allocation is based on the International Standard Industrial Classification of all Economic Activities (Revision 4) and as described in Kenessey (1987:363) and outlined in Table 4-8.

Table 4-8: Categorisation of industrial sectors

| Major activities | Industrial sectors | SIC major group |
|---|---|---|
| Primary | Agriculture, forestry and fishing<br>Mining | 01, 02, 07, 08, 09<br>10, 11, 12, 13, 14 |
| Secondary | Construction<br>Manufacturing | 15, 16, 17<br>20 through 39 |
| Tertiary | Transportation, electric, gas and sanitary services<br>Wholesale trade<br>Retail trade | 40 through 49<br>50, 51<br>52 through 59 |
| Quaternary | Finance, insurance and real estate<br>Services<br><br>Public administration | 60 through 67<br>70, 72, 73, 75, 76, and 78 though 89<br>91 through 97 |

Source: (Kenessey 1987:363)

The way to read Table 4-8 is to consider from left to right as being from the general to the specific and from top to bottom as being from near the natural resources to the abstract. The primary economic activities are those that relate to the direct production of food and the extraction of natural raw materials. The secondary activity relates to those activities that create products from those produced and/or extracted through the primary activities. The tertiary activities are those that support the other activities through the provision of services such as transportation and trade. The quaternary activities are those sectors that are dominated by knowledge-based services. It is noted that other studies also include a quinary sector in their typology which, in the model discussed above, is a subset of the quaternary activities. (Kenessey 1987; Selstad 1990.) The quinary sector has been described as "the quinary sector covered the sophisticated use of information in decision making and associated processes" (Selstad 1990:21). The general view is that as economies grow, there is an increasing emphasis shift from the primary to the quaternary activities (Kenessey 1987; Selstad 1990). This researcher has adopted the model

represented in Table 4-8 as it provides an easy framework to discuss the different sectors. Furthermore, the addition of the quinary type of activities was not going to add any more value to the purpose of understanding what the ICT policies focus on. A key technical point to note is that the SIC major groups indicated in Table 4-8 are derived from the United States version of the Standard Industrial Classification (SIC) codes rather than the South African version. There may be differences between these two even though both these codes are derived from the International Standard Industrial Classification of all Economic Activities as discussed above.

Table 4-8 has been utilised as a building block for Table 4-9. This researcher perused the national ICT policies to understand which policies relate to the industrial sectors and observed that the policies referred to the following sectors: mining, manufacturing, agriculture, fishing, tourism, public service, health, education, transportation, ICT sector, environmental management, culture, commerce, services sector and financial services. The quantity of references to a sector in this section is not a judgement of the SADC countries, but rather an observation of which sectors are perceived as relevant by the specific country.

Table 4-9: Consideration of the industrial sectors by the national ICT policies of SADC countries

| | PRIMARY ACTIVITIES | | SECONDARY ACTIVITIES | | TERTIARY ACTIVITIES | | | QUATERNARY ACTIVITIES | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Agriculture, forestry, and fishing | Mining | Construction | Manufacturing | Transportation, electric, gas and sanitary services | Wholesale trade | Retail trade | Finance, insurance, and real estate | Services | Public administration |
| Botswana | 🖫 | | | 💻 | | | | 🖫 | ✈✂🕮 | 🖫 |
| Lesotho | 🖫 | | | 💻 | | | | ♋ | ✈✂🕮⚐ | 🖫 |
| Malawi | 🖫 | 🖫 | | 💻 | | | | | ✈✂🕮 | 🖫 |
| Mauritius | 🖫 | | | 🖫💻 | | | | 🖫 | ✂🕮 | 🖫 |
| Mozambique | 🖫 | | | 💻 | | | | ♋ | ✈✂🕮⚐@ | 🖫 |
| Namibia | | | | 💻 | | | | ♋ | ✂🕮 | 🖫 |
| Seychelles | 🖫 | | | 💻 | | | | 🖫 | ✈🕮 | 🖫 |
| South Africa | 🖫 | 🖫 | | ☼ | 🖫 | | | 🖫 | ✈✂🕮@ | 🖫 |
| Swaziland | 🖫 | | | ☼🖫 | | | | 🖫 | ✈✂🕮@ | 🖫 |
| Tanzania | 🖫 | 🖫 | | ☼🖫 | 🖫 | | | 🖫 | ✈✂🕮@ | 🖫 |
| Zambia | 🖫 | 🖫 | | ☼🖫 | | | | 🖫 | ✈✂🕮⚐@ | 🖫 |
| Zimbabwe | 🖫 | 🖫 | | 🖫💻 | 🖫 | | | ♋ | ✈✂🕮 | 🖫 |

🖫= ICT in the sector ✈= Tourism ✂= Health ♋= + eCommerce

💻= ICT Industry ⚐= Environmental Management @ = Culture & Art

☼= Manufacturing of ICT 🕮= Education & Training $= Financial Services

In ten of the twelve SADC countries, the national ICT policies comment on the role of ICT in the primary economy activity of agriculture, forestry and fishing. Only Mauritius and Namibia do not refer to agriculture, forestry or fishing. The Mauritian policy seems to be very high level and refers to one of its broad objectives being to enhance "the exploitation of ICT across the economy for increased productivity and efficiency" (Ministry of Information Technology and Telecommunications (Republic of Mauritius) 2007:6). The manner in which it is expressed in this policy is so all-encompassing that it includes all sectors of the economy without being specific. This policy, however, does refer to sugar being a key industry within its economy. The Namibian policy is even more oblique in stating that "ICT is both a prerequisite for economic progress and a major potential contributor to economic progress. … for all sectors of society (public sector, civil society and industry)" (Namibia Ministry of ICT 2008:2).

Fewer than six (50%) of the national ICT policies of the SADC countries that were analysed did not identify a role for ICTs in the mining sector. This researcher noted that not all the SADC countries have a significant mining industry. The number of countries that refer to any relationship between ICTs and a particular sector should be understood in the context of the place of that sector in the country.

Although the national ICT policies of the SADC countries do refer to the manufacturing sector, this sector is not seen as one of the major economic activities. Six (50%) of the twelve national ICT policies of SADC countries analysed refer to the manufacturing sector of the economy. Five (83.3%) of these policies (41.67% of the total policies), which is the most, raise the importance of ICT within the manufacturing sector as a part of their information society programme. The ICT sector is inclusive of both manufacturing (of ICTs) and the provision of ICT services. The Namibian Government's Vision 2030 document states that "ICT must be the most important sector in the economic development of the country by 2030" (Namibia Ministry of ICT 2008:3). When the national ICT policies of SADC countries refer to the growth of their ICT sector, only three specifically referred to the manufacturing of ICT products, whereas the rest were generic when dealing with the establishment or expansion of the ICT sector. These nine policies may or may not be concerned with the manufacturing sector aspect of ICTs. As is the case with

other SADC countries, Botswana, in its policy, does not specify the manufacturing industry but rather industry in general (Government of Botswana 2007:18). The context within which this is discussed, however, suggests that this is relevant to the agricultural industrial sector as the dominant and traditional sector within the country. The level of emphasis of ICT within the manufacturing sector is different from the discussions related to the Fourth Industrial Revolution (4IR) in Germany also termed industrie 4.0, which will be discussed later in the following chapter. In terms of this newer emphasis, industrie 4.0 places ICTs at the centre of industrialisation and manufacturing (Pfeiffer 2017).

The South African policy highlights the role of ICTs in the transportation, electric, gas and sanitary services sector in that they “enable trade in other sectors by enhancing market access and broadening the customer base, facilitating customs, transport and logistics” (Republic of South Africa 2007:17). The only other SADC national ICT policy that relates ICT to the transportation, electric, gas and sanitary services sector are those of Tanzania and Zimbabwe whose national ICT policies have identified the role of government in promoting the use of ICTs for the provision of transport services (Ministry of Communications and Transport (The United Republic of Tanzania) 2003:18; Zimbabwe Ministry of Science and Technology Development 2005:22). These two countries address this aspect from the perspective of the role of government in providing transport services and could be considered within the quaternary services. This researcher could not find any significant reference within the rest of the national ICT policies of the SADC countries that suggests any noteworthy plan related to the transportation, electric, gas and sanitary services sector.

While most of national ICT policies of the SADC countries do not directly raise any impact of the information society policy or ICTs on the transportation, electric, gas and sanitary services sector, almost all the policies refer to the critical role this sector plays in the success of the implementation of the information society programme. For instance, the Lesotho policy states that government must ensure that the delivery of ICTs “is not constrained by inadequate transport and energy infrastructure” (Ministry of Communications Science and Technology (Kingdom of Lesotho) 2005:22). Another example is the Namibian policy for which supporting

infrastructure such as roads, electric power and water and sanitation are complementary services for the successful penetration of ICTs (Namibia Ministry of ICT 2008:25).

Seven of the national ICT policies of the SADC countries mention the importance of ICTs in the finance, insurance and real estate sector. However, no policy specifically mentions real estate in any way. It is surprising that only seven countries specifically mention the finance, insurance and real estate sector of the economy, whereas the rest, except for Malawi, have an e-commerce programme. This is especially surprising when one considers the linkage between the financial services and e-commerce and trade as noted by the Zambian national ICT policy (Ministry of Communications and Transport (Republic of Zambia) 2006:40).

Education is one of the economic sectors that all the national ICT policies of the SADC countries prioritise. The policies do not merely make a fleeting reference to this sector but discuss it in depth. Education is the most coded (under HUMAN RESOURCE DEVELOPMENT) of all the economic sectors. The policies address the role of education in promoting ICTs, the role of ICTs in promoting education, the various programmes that the countries have within the education sector related to the information society. Education is an element of one of the key themes and concepts that this researcher has identified – CAPACITATING.

Health and healthcare is another key sub-sector within the services sectors prioritised by 11 of the 12 national ICT policies of the SADC countries analysed. Seychelles is the only country that does not specifically refer to health or healthcare services. The SADC countries see ICTs as a key enabler to the provision of better health services and six (54.6%) have dedicated e-health programmes.

This researcher has observed that, except for Mauritius and Namibia, all the national ICT policies for the SADC countries comment on the importance of ICT in the tourism industry. This observation is not surprising since tourism is seen to be a key sector in many of the SADC countries' economies (Makochekanwa 2013).

The Mozambican policy highlights the role of the information policy and ICTs in environmental management and, in addition, the Zambian and Zimbabwean policies raise the key link between environmental management and tourism. On the other hand, the Namibian ICT policy raises the issue of the potential negative impact of ICTs on the environment.

Ten of the national ICT policies of the SADC analysed acknowledge as the key linkages between ICTs and culture, particularly the role of ICT in influencing the country's cultural heritage. Five countries, Mozambique, South Africa, Swaziland, Tanzania and Zambia mention the impact of ICTs in culture as an economic sector. Mauritius and Namibia make no reference to the cultural sector.

Without exception, all the national ICT policies place the public administration sector as one of the key focus areas. What this researcher has observed is that the application of ICTs in the public administration sector is not only through e-government, but also through the other sectors such as health, education and tourism, where government plays a key role. To illustrate this point, the Botswana Government-On-Line programme was aimed at providing government information and services related to, among others, health, education, business and tourism (Government of Botswana 2007:11–12), all of which are part of the public administration sector. The national ICT policies place public administration as one of the dominant economic sectors that is likely to build an information society within the SADC.

None of the national ICT policies of the SADC countries comment on the construction and on the wholesale trade sector. Although some of the policies comment on the contribution of ICTs in the trading process, none of them make any reference to the retail trade sector.

#### 4.5.1.2 Social categories

The University of Minnesota has published, for the benefit of its students, a sociology text which was initially published in 2010 by an author who does not want to be attributed in the republished version (*Sociology : Understanding and Changing the Social World* 2016:x). This book expounds how sociologists differentiate social

groups, social categories or social aggregates. In this book, social groups are described as those with members who not only have something in common, but also engage with each other, whereas members of a social category do not necessarily engage with each other. On the other hand, members of social aggregates only have their social proximity and superficial engagement in common (*Sociology : Understanding and Changing the Social World* 2016:173).

Based on this understanding, this researcher focused on specific social categories that are highlighted in the national ICT policies of SADC countries. The social categories mentioned in the national ICT policies which include women, youth, people with disabilities and older persons seem to have been selected by the policy makers to advance their quest for achieving the information society. This researcher was aware that there are social categories that could be relevant for building the information society; however, these did not receive focused and special mention in the SADC national ICT policies. This apparent anomaly is discussed further in Section 25.4.1, commencing on page 191.

Social categories play a role in assisting people to infer what members of a social category are like and what they are capable of. They also act as a basis for the generation of stereotypes (Bodenhausen, Kang & Peery 2012:312). Some of the national ICT policies focus on some of these social categories to counter the negative stereotypes, to reverse previous prejudice or to take advantage of the personality traits or knowledge required for the achievement of the information society that a social category is perceived to possess. The presence of coding for the typical social categories in the national ICT policies is outlined in Table 4-10.

Table 4-10: The presence of coding for the social categories in the national ICT policies

| | CHILDREN AND YOUTH | ELDERLY PEOPLE | PEOPLE WITH DISABILITIES | POOR | WOMEN AND GIRLS |
|---|---|---|---|---|---|
| Botswana | Yes | Yes | No | No | Yes |
| Lesotho | Yes | Yes | Yes | Yes | Yes |
| Malawi | Yes | No | Yes | No | Yes |
| Mauritius | Yes | No | No | No | No |
| Mozambique | Yes | No | No | No | Yes |
| Namibia | Yes | No | Yes | No | Yes |
| Seychelles | No | No | No | No | Yes |
| South Africa | Yes | Yes | Yes | Yes | Yes |
| Swaziland | Yes | No | Yes | Yes | Yes |
| Tanzania | Yes | Yes | Yes | Yes | Yes |
| Zambia | Yes | No | Yes | No | Yes |
| Zimbabwe | Yes | Yes | Yes | Yes | Yes |

Table 4-10 illustrates what the national ICT policies intend to focus on in building the information society through paying “attention to the special needs of marginalised groups of society, including women, youth, the disabled, the disenfranchised and the elderly” (Ministry of Communications Science and Technology (Kingdom of Lesotho) 2005:22). Except for Seychelles, which only addresses the social group WOMEN AND GIRLS, all the national ICT policies have identified children and youth as a social group they need to focus on in building the information society. The WOMEN AND GIRLS social group has been coded by a similar number of national ICT policies. Only Mauritius does not have a code for WOMEN AND GIRLS. The next most coded social group is PEOPLE WITH DISABILITIES. The ELDERLY and the POOR social groups are not considered significant groups as they have been coded by less than 50% of the national ICT policies.

There are unique social categories that are not reflected in many of the national ICT policies, such as black people that are identified in the South African policy and small businesses in the national ICT policy of Botswana. Because of the scarcity of these categories, they are not mentioned further.

In summary, this researcher has observed that the national ICT policies are expected to impact on economic sectors and/or social categories. The profile of the SADC countries in this respect is that the economic sectors which they would like the information society to impact on are the primary sector, particularly agriculture, forestry, fishing and, to a lesser extent, mining. The other economic sector is the services sector focusing on government-related services such as health and education. The social categories most considered are those of youth and children and women and girls.

### 4.5.2 Aligning – Mimicking those perceived to be ahead

Through the discussion of the rationale for the policies of the SADC countries as well as related strategies, policies, plans and programmes discussed in Sections 4.3 and 4.4, this researcher noted that the national ICT policies seem to be aligning to what they see to be happening in the advanced economies or countries that are perceived to be advancing successfully towards becoming information societies. All the national ICT policies of the SADC countries are trying to align themselves, in some sense, to other countries. When coding the Zambian policy, this researcher realised that ALGINING could not only be with regard to other countries, but also with regard to regional bodies such as the SADC. For instance, to facilitate this alignment, there is a protocol on harmonising the legislation of Southern African countries (Ministry of Communications and Transport (Republic of Zambia) 2006). Figure 4-7 outlines the number of codes within a national ICT policy for ALIGNING.

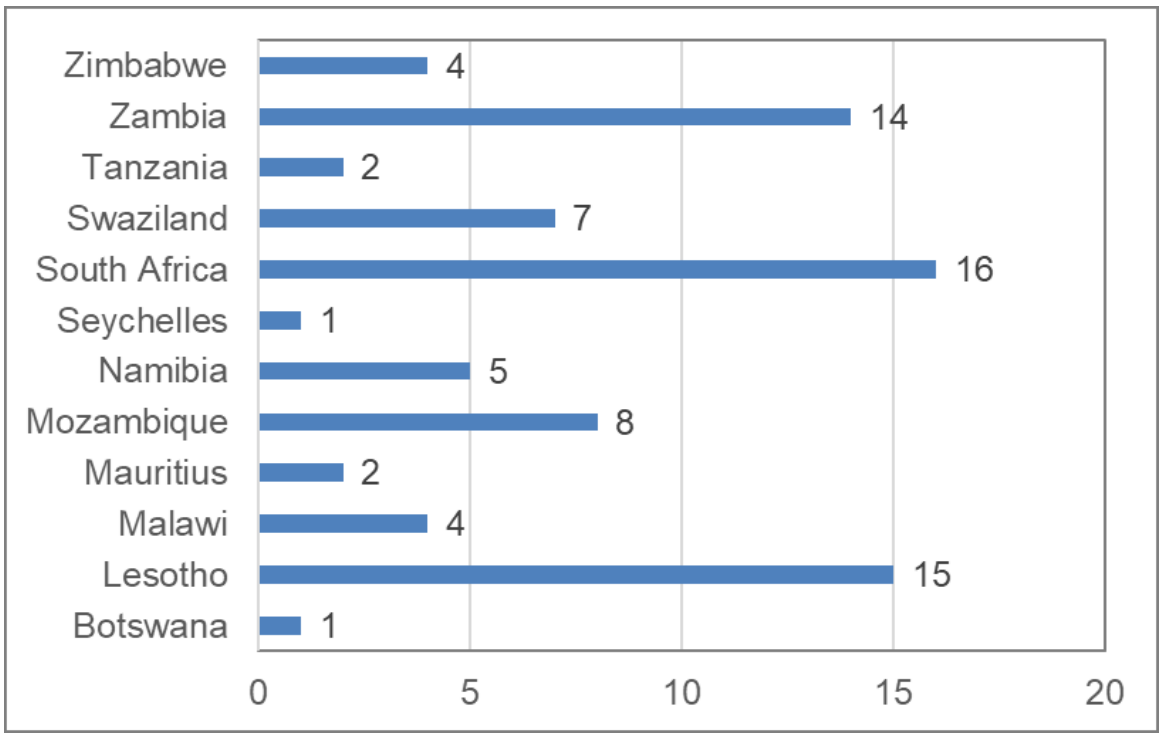



Figure 4-7: Number of codes for ALIGNING

The number of codes for ALIGNING shown in Figure 4-7 shows that different policies refer to the alignment in different intensities. However, this does not indicate the intensity of this code within the policy. For instance, the Botswana national ICT policy, which has fewer codes to ALIGNING, is of the view that "All of the recommended programmes and projects are based on successful ICT initiatives found in other parts of the world" (Government of Botswana 2007:8). This expression is much stronger than those of other countries.

Aligning could be described as doing what is perceived to be what the world expects from an SADC country. It could also be considered mimicry, imitation, copying, importing or replication. The policy makers consider themselves to be aligning with best practice when they are mimicking (see Bhabha (1994) for the mimicking theory). Policy makers believe that aligning their information society policies with those of countries perceived to be in the acme of information society development would be beneficial. Those countries tend to be those in the so-called developed world and therefore the question arises whether or not the policies are aligning or mimicking. The key difference this researcher makes between mimicry and mimicking is that the latter emphasises the process of being or rather trying to be or

behave like the other countries that are perceived to have been successful in building the information society.

A key question that this researcher identified when coding the Mozambique policy was whether this ALIGNING to those who are advanced was a push or a pull by the advanced economies. It appeared from the reading of that policy that the government was pulling the lessons from other countries and pushing these to their citizens. This is observed in Section 5.1(d) of the Mozambique national ICT policy where it emphasises the promotion of the use of ICTs. On the other hand, Section 5.2 of the Mozambique policy states that in the developed countries, the private sector is driving the information society (Mozambique (Republic of) 2000), Furthermore, the reference to rural and urban imbalance in eight of the twelve national ICT policies (66.67%) is obviously not copying the developed countries. This raises the question of whether what is emerging from the policies whereby the government seems to be the driving force is at odds with “best practice”. The concern regarding alignment may not be of significance.

### 4.5.3 Governing – Making sure everything works

One of the main themes that emerges from the national ICT policies is governance. The main idea that this relates to is how to ensure that all that the national ICT policies aim to achieve does in fact work. This researcher refers to this as governing by adopting the gerund form as was done with aligning and capacitating. Utilising gerunds better depicts actions and processes, thus assists in generating theory (Charmaz 2006:136; Sbaraini, Carter, Evans & Blinkhorn 2011). A dimension of this concept has already been discussed in Section 4.4 above. In that section, we reported on the strategies, policies, plans and programmes that are considered by the national ICT policies to be closely related to the achievement of the information society. Another dimension of this concept relates to the key role players and Table 4-11 outlines the national ICT policies in which these are coded.

Table 4-11: Presence of coding for the role players

| | Civil Society Role | Consulted Stakeholders | All segments of society | Special Team | Unspecified Stakeholders | Government Role | International collaboration | Leadership | Private Sector Role | Role of Higher Education and Research Institutions |
|---|---|---|---|---|---|---|---|---|---|---|
| Botswana | No | Yes | Yes | Yes | No | Yes | No | Yes | No | No |
| Lesotho | Yes | No | No | No | No | Yes | Yes | Yes | Yes | No |
| Malawi | Yes | Yes | Yes | No | Yes | Yes | Yes | Yes | Yes | No |
| Mauritius | No | No | No | No | No | Yes | Yes | Yes | Yes | No |
| Mozambique | Yes | Yes | Yes | No | Yes | Yes | Yes | Yes | Yes | Yes |
| Namibia | Yes | Yes | Yes | No | Yes | Yes | Yes | Yes | Yes | No |
| Seychelles | Yes | Yes | Yes | Yes | Yes | Yes | No | Yes | Yes | No |
| South Africa | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Swaziland | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Tanzania | Yes | No | No | No | No | Yes | Yes | Yes | Yes | Yes |
| Zambia | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Zimbabwe | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

In all the national ICT policies for the SADC countries coded, government is presented as the key driver and role player in building the information society. In addition to identifying government as a key role player, all the policies have positioned leadership, which mostly relates to government, as fundamental to the building of the information society. In many instances, the leadership role is shared with other role players such as the private sector and civil society. Six (50%) of the twelve national ICT policies have or intend to establish a special team to develop policies or implement the information society programmes. This researcher observed that despite the fact that the national ICT policies prioritise government, they recognise that other non-government players have a role to play. Eight (66.67%) of the twelve national ICT policies were coded at stakeholders that were not specified, nine (75%) reported to have a role for all segments of society, and a similar number to have consulted stakeholders other than government.

At least ten (83.33%) of the twelve national ICT policies have identified a role for international collaboration. This, in other words, suggests that these countries see a role for other role players outside their specific countries in the achievement of the information society for them. Six (50%) of the twelve national ICT policies have specifically noted the role of higher education and research institutions in building the information society. This correlates with the human resource development aspect of capacitating discussed in Section 4.5.1 above. Governing, aligning and capacitating are the concepts identified within the national ICT policies of SADC countries upon which the emerging theory of building the information society is being built.

## 4.6 An emerging theory for building the information society

In Section 4.3 above, this researcher has laid the basis for an emerging theory for building the information society for development by the SADC countries. The main idea and concept that appear to be at the core of the national ICT policies for the SADC countries are capacitating. This concept is supported by two other concepts, aligning and governing, which were also discussed in Sections 4.5.2 and 4.5.3. Figure 4-8 provides a model of the emergent theory for building the information society for development in SADC countries, which is explained below.

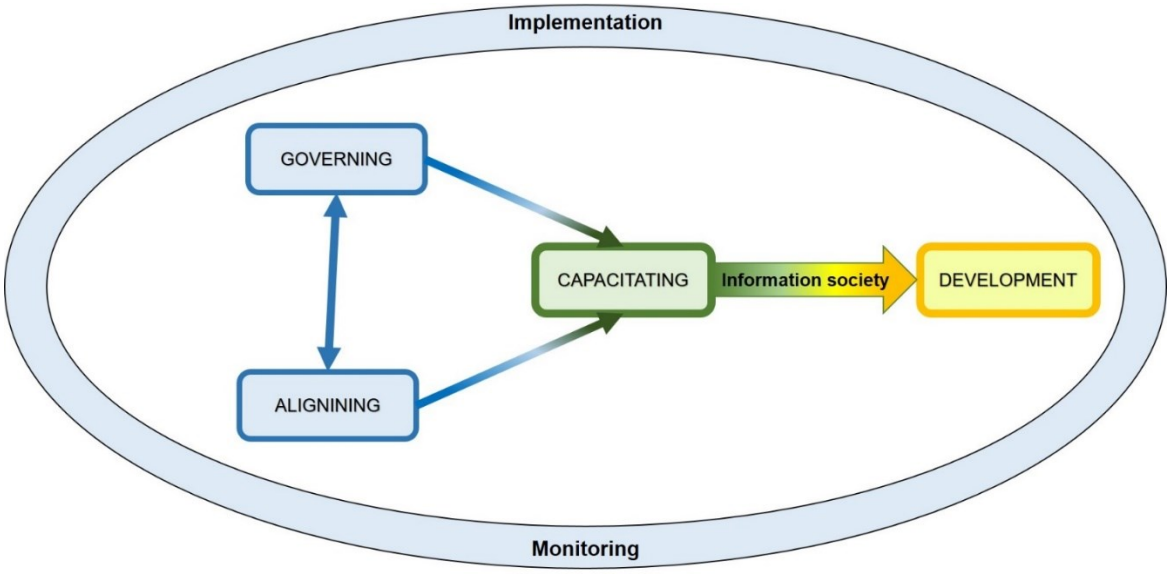



Figure 4-8: Model of the emergent theory for building the information society for development in SADC countries

Capacitating addresses four main limitations to building the information society for development. Firstly, the availability of appropriate software, hardware and network infrastructure; secondly, inadequate knowledge, skills and attitudes to exploit information and ICTs; thirdly, poor affordability and insufficient financial resources; and fourthly, social and other cultural barriers directed at marginalised social groups. In essence, capacitating addresses the limitation of access to information through initiatives and programmes that increase the information capacity of a society. Not only should the infrastructure be accessible, affordable and safe, but the people should also have the right knowledge, skills and propensity to utilise these. In analysing the national ICT policies, this researcher has observed that, according to the policies, these efforts would inevitably lead to the information society achieving development.

The choice or selection of initiatives and programmes that the national ICT policies are selecting or considering is based on what this researcher has labelled mimicking as discussed in Section 4.5.2 above. National ICT policies for SADC countries seem to be aligned to the view that whatever is perceived to have led to the achievement of an information society in developed countries will succeed in capacitating the SADC countries. The national ICT policies do not candidly align with other countries

or guidelines. The policies profess or appear to be based solely on the local conditions found in the specific country, whereas they are aligning with regard to capacitating as well as governing.

For the capacitating efforts to be effective, the national ICT policies seem to consider governing to be another key concept supporting their approach to building the information society. The key elements of governing identified by the national ICT policies address the issues of who plays what role, what structures need to be established and what regulatory or legislative framework should be in place for capacitating. Implementation and monitoring could be considered to be part of governing. However, in Figure 4-8, this researcher has presented implementation and monitoring separately in order to emphasise the view that encompasses all the theoretical constructs embodied in the national ICT policies. The achievement of the information society is about action and monitoring that action to ensure that the action achieves the intended objectives.

### 4.7 Opinions of informants immersed in the information society

In Chapter Three of this report, it was stated that the data would be collected in two phases. The first phase, which has been reported on in Sections 4.3 to 4.6, was based on the content analysis of the national ICT policies. This phase, which culminated in the expression of an emergent theory was depicted in a model for building an information society for development in SADC countries. The second phase, which is now being reported on in this Section 4.7, is based on the extraction of data from a sample of informants in order to improve the quality of this study as discussed in Sections 3.6 and 3.7 as a form of triangulation. In addition, during the coding of the policies and the accompanying memo writing, this researcher identified some gaps that required additional data collection. This data was collected from knowledgeable informants through open-ended interviews.

This researcher sent out requests to people who, with respect of at least one SADC country, have been identified as having been personally involved in the development of the national ICT policy or are involved in the implementation of the information society programme. The people concerned could be within or outside of government structures. Countries where this researcher could find a contact to assist with the

identification of such individuals were Botswana, Lesotho, Malawi, Namibia, Mozambique, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe. This researcher attempted to contact individuals in the SADC secretariat who could have relevant links in all the SADC countries, but this measure failed to generate any leads.

The key informants that this researcher interviewed had been involved in the information society programmes of Botswana, Namibia, South Africa, Zimbabwe and the SADC in general. The roles that the informants played in these countries' policies as well as their background covered the following areas:

1. Head of ICT regulatory body
2. Senior government official responsible for coordinating the development of the national ICT policy of an SADC country
3. Senior government official that contributed to the national ICT policies of multiple SADC countries
4. Academic that contributed ideas to the revision of a national ICT policy
5. Consultant that assisted a few SADC countries to implement aspects of the national ICT policy and other information society-related activities

This researcher interviewed the above informants face to face or electronically. In both situations, the interviews were recorded with minimal note taking during the interview. Although the interview was open ended, this researcher had prepared an interview guide (see Appendix D) that was utilised to guide the interview. During the interview, this researcher was able to follow up in order to clarify certain issues or probe more where the informant had not expanded or had stated something that required additional information. One of the respondents requested a full list of the questions that would be asked, which was provided. The informant provided written replies, which were followed up with an interview to clarify and expand on some of the issues. The responses of the informants were transcribed and coded, constantly comparing with the previous codes, categories and concepts.

A key challenge faced by this researcher related to the availability of the identified key informants. Furthermore, one of the interviews had to be rescheduled due to challenges related to the quality of the network signal.

The focus of the research was to confirm that there are people who are or were involved in the information society issues who would have views that are aligned to those that were identified as underlying the actual national ICT policies and could be considered in line with the emergent theory depicted in Figure 4-8. To acquire the required data from the informants, the following issues were discussed with them:

- The informant's role in the development of the information society in their country or any other SADC country.
- Their views on the national ICT policies and how these relate to the information society.
- What they consider to be key priorities for building an information society.
- What they consider to be significant role players in building the information society.
- Their impressions of the success and continued significance for building the information society in their country or SADC.
- Their opinion on the originality of the national ICT policies of SADC countries.
- Their views on the fourth industrial revolution as a new "fad" to take the place of information society programmes.

To steer the interviews, an interview guide was developed and is attached as Appendix D. To make sense of the responses to these issues, this researcher transcribed the audio recordings and coded them against the old codes that were generated during the first phase of the research as well as the new codes congruent to the questions in the interview guides. The new codes are listed below:

- Role in information society
- Information society and national ICT policies
- Critical issues

- Key role players
- Tasks of role players
- Relevance of the information society now
- Success of ICT policy
- Copying by countries
- 4IR and information society
- Any other info

Based on all these codes, this researcher conducted queries through the NVivo programme. The outcome of these queries reflects the informants' perspective on the information society and contributes to responding to the research questions and the achievement of the research objective as presented in the rest of this section.

One of the first queries conducted through the NVivo query function was the word frequency search through all the interviews. This search included only words of a minimum length of five letters and limited the words to 100, including stemmed words. Additional stop words were added to exclude these in the result in order to avoid common words such as "understand" or "because", which some informants tend to use. Figure 4-9 depicts the word cloud and Table 4-12 the top ten words this search.


Figure 4-9: Word cloud depicting top hundred words used by the informants

Table 4-12: Top ten words used by the informants

| Word | Count | Weighted percentage (%) |
|---|---|---|
| development | 50 | 1,37 |
| government | 46 | 1,26 |
| people | 42 | 1,15 |
| parliament | 31 | 0,85 |
| infrastructure | 28 | 0,77 |
| departments | 25 | 0,68 |
| strategies | 24 | 0,66 |
| implementing | 18 | 0,49 |
| access | 17 | 0,46 |
| document | 17 | 0,46 |

Figure 4-9 provides a visual depiction of the key issues that informants addressed, whereas Table 4-12 provides a more detailed numerical perspective. The most

common word in the interviews was “development”. This word was counted 50 times. Even though not all the informants were from within government, the word “government” was the word mentioned second most of all words. The dominance of the word “government” is increased by recognising that the word “departments”, which was also in the top ten words, also relates very closely to government. Combining “government” with “department” makes “government” even more dominant than “development”. This would give it a count of 71. The third most dominant word in terms of the interviews was the word “people”, with a count of 31.

Because the information in Figure 4-9 and Table 4-12 is based just on a count of words, this researcher checked behind these numbers and noted that all the informants had utilised these top three words, as well as the words “parliament”, “departments”, “strategies” and “access”. Although some of the words were utilised by more informants, the word “document” was not very meaningful and should have been added as a stop word. See Figure 4-10.

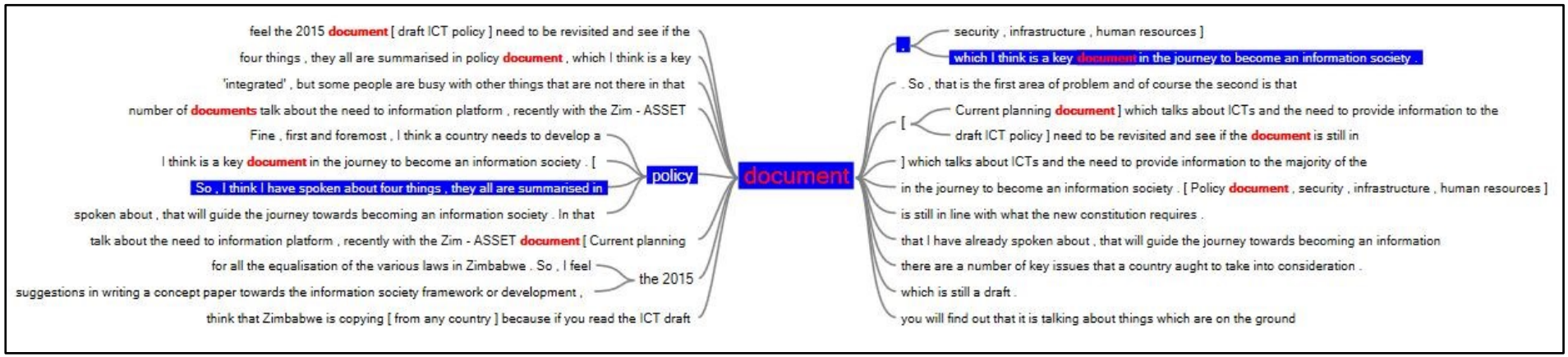



Figure 4-10: Word tree for the word “document” as mentioned by the informants

It is clear from the word tree depicted in Figure 4-10 that the word “document” was utilised mainly in a descriptive manner in relation to information society-related policies. In that sense, the word counts presented above only served as a beacon to direct this researcher regarding where to search next for those nuggets of information. In the coding of the interview transcripts, this researcher could determine how the views of the informants related to the emerging theory and filled the conceptual gaps that were responding to the research questions. The first area to address relates to the perception of the nature of the information society and its importance in society.

All the informants were of the view that the national ICT policies were key to the building of the information society, which they all described in a similar manner to the national ICT policies themselves. The view of the informants was that the end state for the information society was the “provision of information to the majority of the people”, in the words of one respondent. This access to information was perceived as contributing to development such that with the building of the information society, “Africa as a continent can even think about leapfrogging several developmental stages to be anywhere near catching up with the rest of the world, particularly the western world and some parts of Asia.”

Furthermore, all the informants considered the benefits of the information society to accrue to all members of society – the urban and the rural, the developed and the under-developed areas, in all corners of a country. One of the informants went to the extent of stating that being inclusive is a critical determinant of the concept information society. The informants saw the building of the information society almost as a panacea; they saw it as being “about how society engages, how people engage with each other, how people work, how people play, how people do everything.”

Despite this high expectation of the benefits of the information society, none of the key informants were satisfied with the progress their country or most SADC countries have made in building the information society. The informants expressed sentiments like, “The governance of policy is so disintegrated for it to enable the realisation of this information society” or “we've got very good policies, very good

strategies; why we are not succeeding? I think it's more related to supporting the implementation of the policy." All does not seem to be doom and gloom because in responding to an unrelated question, an informant singled out Botswana and Namibia as having made some progress. This informant from another SADC country, was not from the country they were commenting on.

In consideration of research question one (What is the package of strategies, policies, plans or programmes adopted by the various SADC countries in their effort to build the information society?), the informants were quite aware of the fact that to achieve the information society, there was a need for other strategies, plans, policies or programmes. One of the informants even gave a long explanation that is reproduced below:

> The policy on its own is not sufficient because it's really giving us a set of policy statements. Ten, fifteen, or twenty policy statements that serve to explain and describe how we can get to the desired state. So, we need additional documentation in addition to the policy, which is what I may call a strategy which now says in detail, you have a policy statement that says we want to be secure in terms of … our interaction on the cyber space. That's just a policy statement. How do we then become secure? Therefore, the strategy will detail how we are going to become secure in the cyberspace, in the cyber environment. But again, the strategy on its own is not the end result, the real end result therefore becomes your action plan which can be annual or which can be five years, depending on the environment in which you want to operate.

Other informants noted the role of a constitution and other legislation in supporting the drive towards achieving the information society. Some of the documents that were identified as contributing to the national ICT policies were the National Development Plan of South Africa and the Zimbabwe Agenda for Sustainable Socio-Economic Transformation document. In addition to the vertically different documents that support the national ICT policies, there are horizontal documents

that should be considered. These policies or strategies could address different aspects or sectors such as e-government, e-health, e-education, cybersecurity, etc. In this regard, the informants confirmed what the national ICT policies stated with regard to the nature of the information society and the assortment of other policies, strategies and plans that are required to support the building of the information society. In this regard, the informants also made known their views on the implicit and explicit approaches to achieving the information society that are expressed in the emergent theory, the main concept of which is capacitating, supported by the concepts of capacitating, aligning and implementation monitoring.

The next issue is to address the second research question (What are the implicit and explicit approaches and theoretical grounding embedded within the package of strategies, policies, plans or programmes implemented by the SADC countries?) Without specifically using the terminology of capacitating, all the informants saw the expansion of all forms of ICT infrastructure as important for the building of the infrastructure. An informant stated that “Most of our countries, I am referring here to SADC, do not have the infrastructure that will get us to the desired state of becoming an information society. So, there is need for massive investment in ICT infrastructure or infrastructure that will support the desired outcome of becoming an information society.”

The infrastructure that is required includes supporting infrastructure such as electricity, without which the ICT tools cannot function, which functioning allows the people to be absorbed within the information society. Capacitating does not only refer to infrastructure, it also addresses the building of human resource capacity. In emphasising this view, the informant raised the question “...[w]ho is going to be managing and supporting people who are normally not as ICT savvy as probably themselves? Who is going to support them in using the information, in also uploading and making the information available?”

The issue of human resource development was looked at beyond just knowledge and skills. It also had to address the aspect of attitudes of people relative to ICTs. One of the informants was lamenting that “we still have concepts like ‘born before

technology'. I think we must do away with such concepts, they just glorify IT illiteracy and so on. I think there is a need to drive more the uptake of ICT services."

Part of, and related to, the concept of capacitating are resources. These are required to expand the infrastructure and human resource development. The lack of resources is one of the reasons that have been cited for the reason we are failing since we do not seem to go "a step further and financially or resource-wise support the implementation of those strategies." Having built the infrastructure, it has to be accessible to the people, which includes access in terms of affordability as well as bridging other barriers.

Besides capacitating, governing is the most dominant concept that emerged from the informants. This dominance is also reflected in Figure 4-9 and Table 4-12 and the discussion related thereto. According to the informants, not only is government supposed to coordinate, facilitate and drive the building of the information society, it should also be better organised in order to be effective. The informants attributed the lacklustre implementation of the national ICT policies to poor governing. The informants have made statements such as, "The governance of policy is so disintegrated for it to enable the realisation of this information society." Another statement was, "And there is no need to have a hide and seek play, whereby you find that government on the one side just crafts laws and tomorrow they legislate without the involvement of the key players." In addition, some informants' view is that "you actually need a centralised intervention that involves the different critical government departments to actually ensure that there is a broad game plan for building the information society in a country that includes all the critical departments, and that is aligned, that is integrated."

Part of effective governing is ensuring that all the key participants play the role they need to be playing. The following are the words of an informant: "… it is everybody's duty, each one should be able to say, okay - I am working in the space of an NGO. Within the space of the NGO this is where we are going to focus in terms of contributing to the building of the information society. I am in this department; I am in the private sector. Each one, from their angle there is a component that is required for building an inclusive information society."

As part of governing, the national ICT policies were described as key to the development of the information society. In the view of the informants, the policies are critical for the programme for building the information society, “Because without the policies you can't move.” In response to a question of what the critical actions are that a country needs to successfully build an information society, an informant promptly stated that, “First and foremost, I think a country needs to develop a policy document that I have already spoken about. That will guide the journey towards becoming an information society.” The sentiment expressed was that the policy had to deal with issues relevant to that country.

Where the informants’ views were to an extent different from those expressed in Section 4.6, it relates to the concept of aligning. Except for one informant, all the informants accepted that SADC countries, in drafting their national ICT policies, have copied from other countries. Their point of view is that there was no need to reinvent the wheel and that we need to learn from other people’s experiences. Furthermore, one informant argued that there was so much similarity in the world that the solutions had to be similar, with a few adjustments. This informant described the process as “copy, compare, adjust and paste.” Despite the justification of copying which this researcher refers to as aligning, one informant was of the opinion that “[W]e need to develop our own model that is different instead of following what the industrialised countries have done, we need to develop our model that suits our own needs, environment, our own culture, our own availability of resources.” On the other hand, the informant was concerned that we have been “bad learners.” The informants felt that we needed to innovate more and create new products and services that talk to our environment and experience.

The informants did put a premium on effective planning and implementation, with one proclaiming that for developing countries such as SADC countries, “building the information society has to be a deliberate and planned effort.” With regard to monitoring the implementation of the national ICT policies, an informant, in highlighting the importance of implementation monitoring, asked the following question: “How do you measure success when you have not put in the tape measure and the rulers, and thermometer to measure and assess the level of achievement?

How do you say, ‘I have succeeded’ when you don't put in place such facilities and frameworks?”

In addition to the issues reported above by the informants which highlighted the development of appropriate national ICT policies, the implementation of other related strategies, policies, plans or programmes, as well as efforts at capacitating and effective governing, were also mentioned as imperative.

One of the key factors identified by the informants that scupper the success of building the information society is political turmoil or the lack of political stability that often plagues some of the SADC countries. Zimbabwe and South Africa were provided as examples where the normal political cycle had led to drastic changes in the information society programmes of the countries. In this case, an informant offered a general rule to the effect that “change in the national leadership affects the delivery and the sponsorship of policies and, with that, it also affects our journey towards becoming an information society.” The suggestion by the informants was that there was a need to develop the national ICT policies based on a national consensus and the involvement of as many people as possible. As an example, an informant stated that you needed “something where all South Africans congregate and say this is where we want to go, this is how we are going to go there, this is what we are going to prioritise first.” In their view, such a consensus was likely to transcend political administrations.

A subject that was discussed with the informants that was not in the national ICT policies is the issue of the 4IR. This researcher had casually observed that, particularly in South Africa, there was less talk about the information society and more about the 4IR. This observation was confirmed by searching the website the South African Presidency first using the key words “fourth industrial revolution” and then using “information society”. The result indicated that, in their speeches, the political heads said very little about the information society and more about the 4IR. What created the perception that the information society discourse is on the wane in South Africa was the observation that the discussion document for the National Policy Conference 2017 made absolutely no reference to the information society, but had a section dedicated to the 4IR. Searching the website of the ANC indicated

that the most recent documents refer to the 4IR, whereas the information society is referred to in older documents.

There was no common position by the informants with regard to the 4IR. Only one of the informants expressed the view that the information society was receding. However, this informant saw the information society being replaced by what he referred to as digital societies. In the view of this informant, for digital societies "everything is about … communication between machines." Another informant saw the 4IR as a version of the information society, arguing that he would want to "see anyone who would want to speak about the fourth industrial revolutions without mentioning information and data as the key resource or a key driver to that revolution." Yet another view was that the discourse on the 4IR is driven by technical people or industry that is speaking parochially to promote the tools that are used to build the information society.

This researcher concluded that there was no need to interview additional informants, as the five interviews were not generating any new concepts through the process of constant comparison. In grounded theory, the point that indicates to the researcher that the he or she may stop collecting data, is referred to as theoretical saturation (Bryant & Charmaz 2007:281; Charmaz 2001:289–290; Urquhart 2013:9). The categories emerging from the coding and constant comparison of the interviews with the data already coded did not generate any new concepts or categories. Therefore, this researcher did not collect any additional data.

### 4.8 Chapter Four summary

In summary, in this chapter, this researcher has presented the initial results with some analysis. The inclusion of some analysis was as a result of the research approach adopted. Twelve national ICT policies for SADC countries that were available in English were analysed utilising the grounded theory approach supported by the NVivo 11 Pro software. In terms of this approach, the policies were coded and, initially, 112 codes were generated.

Based on this, this researcher identified the main idea embedded in the national ICT policies of the SADC countries to be "capacitating". In terms of this concept, the

governments of the SADC countries were of the view that the information society for development in SADC countries would be achieved through capacitating. Furthermore, in terms of this emerging theory, this researcher observed that the national ICT policies were aligning with countries that were considered to be more advanced in terms of the information society and that improved governing was required to support the capacitating efforts.

The next chapter will focus on discussing the emerging theory for the building of the information society for development in SADC countries, considering some of the theories in the literature.

# CHAPTER FIVE: INTERPRETATION AND DISCUSSION OF THE FINDINGS

## 5.1 Introduction

The previous chapter conveyed the findings and identified the key concepts that underpin the theory and theoretical framework that this study aims to generate. The presentation of the findings in Chapter Four culminated in the presentation of an exploratory theory of building an information society within the SADC countries. This theory is a culmination of responding to the research questions to achieve the research objectives.

In this chapter, this researcher interprets and discusses the findings presented in the previous chapter in the context of the literature to generate the theory that this study proposes should be utilised for building an information society within the SADC countries. The flow of the chapter, addresses all the research objectives, commences with a discussion of the findings related to the rationale of national ICT policies within the SADC countries and how they relate to the information society and development in Section 5.2. Following this, Section 5.3 provides a discussion of the findings connected to other strategies, policies and plans that relate to the national ICT policies. Before concluding with a discussion of the proposed theory and framework in Section 5.5, Section 5.4 discusses the findings related to the concepts that emanate from the national ICT policies that are key to the building of the theory.

## 5.2 National ICT policies, the information society and development

What was reported in Chapter Four with regard to the link between the national ICT policies and the information society may appear to be obvious or trivial. As argued in Chapter Two and shown in Table 2-2, there are multiple conceptualisations of the information society through which, for instance, some researchers consider the information society to be fundamentally about ICTs, whereas other researchers take the information society to be primarily about information and/or knowledge (Jiyane et al. 2013). Therefore, it makes sense to figure out how the SADC countries frame

the information society and which information would be a crucial element of the theoretical framework for building an information society within SADC countries.

In Sections 1.4 and 1.8, this researcher argued that not much has been published in the relation to an overarching theory that SADC countries use to underpin their national ICT policies. This view has been utilised to justify the research, this approach and design. Consequently, in Chapter Four, the key elements of an emergent theory were identified. In parsing this emergent theory, this researcher discusses the concepts in the context of the relevant literature, thus enhancing the theory being developed to effectively respond to the research objectives and research questions.

With respect to the first objective – to determine the rationale of the national ICT polices for SADC countries; and the first research question – What is the rationale for the national ICT policies of the SADC countries? – the following:

This researcher discovered that the national ICT policies of the SADC countries are primarily about building the information society that will inevitably lead to the development of its people. The fact that these policies have prioritised ICTs in the building of the information society for their specific country is indicative that the approach towards the information society they have adopted is based on the view that ICTs are expected to play a significant role in the development of their country. It is clear from the analysis of the national ICT policies that the policies expound the view that the information society has an impact on improving all aspects of people's lives, which this study has described as the essence of development. This view supports the recommendation by Rao that pursuing the information society should be conducted as part of the strive for achieving other socio-development goals (Rao 2003:21). In his recent thesis, Makoza (2017) also cites other researchers who emphasise the positive correlation between ICTs and development, suggesting that ICT is a necessary condition for development. This view is not universal and has been challenged by researchers such as Alampay (2006:16) who argues that the level of a country's development sets the limits of how a country can improve its lot through ICTs.

Based on the finding presented in Chapter Four and the literature cited above which will continuously be presented in this chapter, this researcher opines that ICTs, within the context of the information society and development, are mutually reinforcing. In this digital era, countries that strive to improve the living conditions of its citizens should ensure that their national development programmes specifically drive the information society rather than hope that their national ICT policies or information society programmes will automatically lead to socio-economic development. In trying to get the information society to contribute towards development through policy, it could be done through a national ICT or similar policy that addresses development, or through development-related policies that address ICT, or as Makoza et al. (2013:250) argues, through the integration of national ICT policies with other development policies. Although SADC countries have developed their national ICT policies, it is not an absolute necessity for countries to have distinct national ICT policies. However, the issues necessary to be in place to build an information society that are discussed in this chapter have to be implemented.

The adoption of a policy in itself does not imply that the policy has been implemented. It is possible that none of the SADC countries may have adopted the national ICT policies without making any attempt to implement these. This possibility continues to open the door to the correctness of the view that the implementation of the national ICT policies may contribute to the improvement of the lives of the residents of the SADC countries. The improvement of the HDI for the SADC countries is attributable to factors other than the implementation of the national ICT policies. One of the possible explanations of the misalignment between the policy and the development outcomes may be that the issues in the national ICT policies had been implemented even before the policy itself was implemented (Makoza 2017:4).

It was noted in paragraph 4.3 that, in the view of the SADC countries, the rationale for the development of national ICT policies was to ultimately contribute to the improvement of the quality of the people through development. It was also observed that the increase in the HDI for the SADC was not correlated to the adoption of these policies, possibly due to the non-implementation of the policies or, alternatively, the assumption/ view that the adopted policies would lead to development is not correct.

Previous research has argued that a direct correlation between the information society and development is difficult to establish due to a number of reasons, including the inability of researchers to disaggregate the influence of ICTs from those of other factors to development (Flor 2015:46).

Another challenge with respect to the linkage between the information society and development relates to what this researcher considers to be a mutually reinforcing nature between these two phenomena. In terms of this view, development itself, inclusive of economic development, contributes to the information society in such a manner that they become mutually reinforcing.

Makoza's (2017) point of departure for his thesis emphasises the view that one of the many reasons why the national ICT policies of developing countries fail is because of the inadequate consultation with relevant stakeholders by governments, who are typically the drivers for these policies. He argues that the effective participation of stakeholders would lead to better policies that are better implemented due to improved support from key stakeholders and beneficiaries (Makoza 2017:1–2).

One of the fundamental tenets of the information society is that society is moving from being an industrial society to being an information society (Moodley 2004:232). The idea behind the 4IR is that we are still in an industrial society, a different phase of industrial society (Prisecaru 2016). These two ideas seem to be inconsistent with each other; alternatively, they may just be a result of an attempt to keep the attention of the world society through the usage of buzz words as suggested by Berleur and Avgerou (2005:1). The use of the concept of the 4IR has been increasing since the meeting of the World Economic Forum (WEF) that took place in January 2016 where the WEF's founder and executive chairman, Klaus Schwab, clarified it to the participants who are the world's business and national leaders (Craven 2017; Prisecaru 2016).

It is this researcher's view and in line with Khizbullin et al. (2017), that the 4IR should be considered as a part of the information society. In a sense, the 4IR is an extension of the internet and other ICTs into the industrial setting which then finds

its way back into people's lives through the products they use. This extension is attributable to the increasing penetration of the internet of industry, which is also referred to as the Internet of Things (IoT) (Prisecaru 2016:58).

The adoption by the SADC countries of the new focus on the 4IR seems to be a continuation of the mimicking practices observed within the national ICT policies of the SADC countries. Placing the 4IR on the WEF has created an impression that this is a neutral concept that is applicable to all the countries, whereas it originated from the German government and its associated institutes who were promoting the strategy of industry 4.0 or industrie 4.0 (Chung & Kim 2016:1312; Piggin 2016:34; United Nations Development Programme (UNDP) 2015:82) to place German manufacturing in a globally competitive position. Due to the head start that Germany and other industrialised countries already had with regard to industry 4.0 and, consequently, the 4IR, it is reasonable to expect that by mimicking these countries, developing countries will remain behind and only the introduction of different indicators will signify the digital divide.

### 5.3 Related strategies, policies, plans or programmes

Following the logic of Makoza (2017), this study also accepts the broader definition of national ICT policy that it is "an integrated set of decisions, guidelines, laws, regulations and other mechanisms geared to directing and shaping production and use of ICTs" (Marcelle 2000:39). Having decided to focus this research on documents specifically labelled national ICT policy, the study identified which other policy instruments the national ICT policies of the SADC countries identified as contributing towards the information society; these are displayed in Figure 4-4 and Table 4-4.

A policy does not work on its own; the impact of a policy is affected by other policies (Dery 1998). This implies that despite the relationship between different policies as discussed in Section 4.4, there is a possibility of confounding, which makes it more of a challenge to determine whether the failure to achieve the intended outcomes is as a result of the actual national ICT policy or the influence of other adjacent policies. In Makoza's (2017:13) view, other related policies may limit or promote the success of the national ICT policies.

## 5.4 The key concepts underlying the theory of building an information society in SADC countries

This section addresses the research objective of discovering the key concepts within the national ICT policies of the SADC countries that are perceived to drive the success of the information society. The three key concepts that have been discovered from the national ICT policies of the SADC countries are capacitating, aligning and governing. In discussing these concepts, this researcher explored how they could relate to existing relevant literature.

### 5.4.1 Capacitating – Addressing limiters to access to ICTs

As discussed in Chapter Four, this study found that capacitating is one of the key concepts that underlies the theory for building information societies within SADC countries. In the context of this research study, capacitating refers to efforts by role players to increase the capacity, capability and propensity of a society to productively use ICTs. A misunderstanding of capacitating presented by this researcher may lead to the conclusion that the concept of capacitating is just a rephrasing or summarising of the process of building an information society.

Capacitating goes beyond the view that SADC countries consider building the information society as a process to increase the capacity, capability and propensity of a society to productively use ICTs. Capacitating has a relationship with development in that, on the one hand, development can be perceived to be facilitating the achievement of the information society while, on the other, the information society is there to facilitate development. The view that a country's level of development has a direct impact on its ability to achieve the information society has been broached by Keras and Keras (2008). This author notes that the view of Keras and Keras (2008) deals with economic development as reflected by GDP. As discussed in Chapter Two, this researcher is of the view that the improvement of people's lives goes beyond economic development. This broader view is adopted by Bondarenko (2009:40) who assumes that the differences in social, economic, political, organisational and science-tech levels within different countries limit the success of countries to realise the benefits of ICTs and, consequently, the information society. The challenge with this view is that countries must be similar

socially, economically, politically, organisationally, scientifically and technologically before they can equally enjoy the digital benefits. While all these characteristics of a society do have an impact on the achievement and nature of the information society, the intention of countries is not to create a uniform world where all people live an identical lifestyle. The views of Keras and Keras (2008) and Bondarenko (2009) with regard to the success of the information society being determined by the level of development, are contrary to what these authors consider to be the dominant view. The more a country is developed, the more successful its programme for building the information society will be.

In terms of this dominant view, the direction of causation is that the information society will lead to development and the overall improvement of people's lives (Asongu & Nwachukwu 2018:1–2; Chib 2015:4). This dominant view fails to explain why developing countries are failing to narrow the digital divide as well as the development divide, despite the effort taken to build the information society. However, there is the realisation that ICTs are not a “silver bullet for economic development” (Asongu & Nwachukwu 2018:2). In line with this dominant view, Lee, Hong and Hwang (2017) argue that ICT diffusion, thus the level of the information society, contributes towards the improvement of people’s lives. However, Lee et al. (2017) further argue that the income level of the economy, reflected by its GDP, influences the impact of ICTs on human progress.

In synthesising all the research mentioned above, this researcher has observed that building the information society is intrinsically part of the development enterprise. Furthermore, the information society contributes to development and development sets the limits of what is possible in building the information society. Since the information society and level of development are mutually reinforcing, theories applicable to development are likely to be applicable to the information society.

In the discussion just above, this researcher has taken some time to discuss the relationship between the information society and development in order to lay an adequate foundation for introducing Sen’s capabilities approach as a framework within the development literature (Chib 2015:5–6) which, to some extent, makes sense of the capacitating concept that seems to permeate the national ICT policies

of SADC countries. In Section 2.4, Sen's approach to development was discussed and, in this chapter, his capabilities approach is discussed to explore how it relates to capacitating.

The view that building the information society for development can be achieved by simply providing the ICT infrastructure and other resources that are required for people to access information is very much similar to and has much the same weaknesses as the view in development that poverty and underdevelopment are the result of a lack of income and resources. Within the development literature this view has been critiqued by Sen and other researchers as inadequate (Sen 1994). Amartya Sen, who provides one of the most effective alternatives to this view, extends it by introducing the capability approach (Sen 1988, 1994, 1999, 2004).

In this research, the choice of the word "capacitating" was made prior to the recognition that it may end up being a key concept. In further exploring the concept, it became apparent that it could potentially be confused with "capability" since the words capacity and capability could be used interchangeably (Vincent 2008). It is necessary to state that the concept of capacitating and the capability approach are utilised as discussed in this research, rather than in their everyday use. Figure 5-1 represents how this researcher comprehends the capability approach.


Figure 5-1: The key elements of the capability approach
Source: (Own analysis)

For this research, only a broad overview of the capability approach is presented in Figure 5-1 given, mainly to argue how it links with the capacitating concept. The capability approach has two concepts which are its component parts: functionings and freedom (Alkire 2005:118; Sen 1988:15–17). Functionings have two elements, which are what people regard as valuable to be and valuable to do; these are what people consider important to them (Alkire 2005:118–120; Clark 2005:4; Sen 1988:15–16). Although it may be important for people to achieve valuable functionings, the capability approach considers the freedom to choose whether to pursue any particular functioning equally important (Alkire 2005:120–122; Sen 1988:16–17). In joining functionings and freedom, Sen has clarified the capability approach as being about realising "what we are free to do and free to be" (Sen 2004:78), that is, having the freedom to be and do what they consider to be valuable. Figure 5-2 describes how commodities, capabilities, functioning and utility relate to each other, as viewed by Sen.

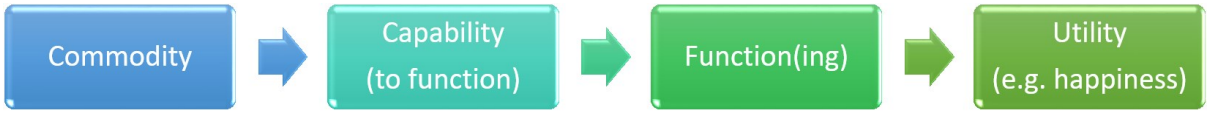



Figure 5-2: How commodities, human functioning/ capability and utility relate to each other

Source: (Clark 2005:3)

In Figure 5-2, commodity refers to goods which people have or have access to in order to improve their lives (Sen 1983:159–163). These commodities, although not sufficient, are expected to lead to capabilities, discussed above, which will lead to achieving specific functionings which in turn leads to some utility (Clark 2005:3; Sen 1983:159–163). It may not be apparent that the relationship of the concepts that are key to the capabilities approach depicted in Figure 5-2 include freedom. However, freedom is inherent in the concept of capability. To further comprehend Figure 5-2, utility has to be understood as a the mental reaction to functioning or utilisation of commodities (Sen 1983:160).

The choice of the word "capacitating" emphasises the observation by this researcher that the national ICT policies of SADC countries intend to build or increase capacity

and capability for ICT utilisation within a specific country. It is important to emphasise that although this seems to be the dominant feature of the policies, it is not the only feature. Sen (2004) emphasises that since the capabilities approach could be utilised for different purposes in different conditions that require different priorities, and based on the understanding of a particular group of people, there should not be a definitive list of capabilities. Following this logic, information society programmes could be understood within the capabilities approach.

If one were to extrapolate how the capability approach dealt with human development, justice or poverty reduction (Alkire 2005:117) for the information society, the objective of building the information society would be to ensure that people have the freedom to be and do what they consider valuable in relation to how information and communication technologies, broadly defined, improve their lives. It is the view of this researcher that one of the means of expanding human capabilities (Clark 2005:10) is capacitating as a concept identified in this study and presented in Figure 5-3.

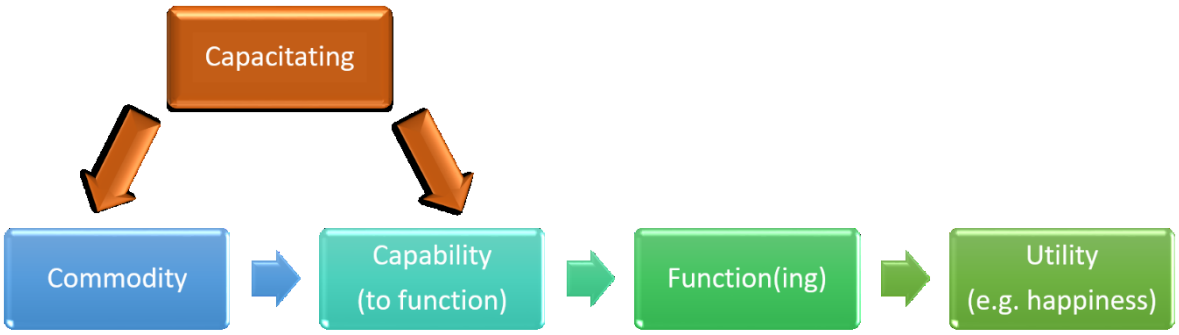



Figure 5-3: How capacitating relates to the capability
Source: (Researcher's adaptation of Clark 2005:3)

In Figure 5-3, this researcher provides a pictorial presentation of how capacitating relates to capability. It suggests that it is through capacitating that people acquire certain capabilities directly or through influencing the nature or number of commodities that people have access to. To illustrate the point within the information society context, capacitating could lead to an increase in access to computers as well as the freedom to connect to the internet, which would lead to the capability of communicating with anyone in cyberspace.

Capacitating addresses the limiters to building the information society within SADC countries. These have been identified in Chapter Four to be appropriate infrastructure and relevant content; knowledge, skills, and attitudes; financial and material resources; quality of ICT services; and factors affecting specific social groupings. These limiters to the information society have been identified by other researchers as well. There is an immense amount of literature on these issues; however, only a few will be mentioned just to illustrate the point.

The research by Asongu and Nwachukwu (2017) reflects that, in an effort to build their knowledge economies, African countries focus on the themes of "(i) education and skilled population, (ii) economic incentives and institutional regime, (iii) ICT and (iv) innovation systems" (Asongu & Nwachukwu 2017:5). These themes address most of the limiters mentioned in the previous paragraph and particularly those related to infrastructure and relevant content as well as human resource development. The study by Asongu and Nwachukwu (2017) is relevant because one of the key elements of the information society is the knowledge or information economy. Furthermore, it contributes to the response to the research question "What are the implicit and explicit approaches and theoretical grounding embedded within the package of strategies, policies, plans or programmes implemented by the SADC countries?"

Capacitating a community or country through appropriate infrastructure and relevant content has the same effect as improving ICT penetration. The conceptual framework for determining the degree to which a country has attained the status of an information society that was proposed by Sciadas (2005) emphasises the centrality of improving ICT penetration, which it sees as the basis of ICT consumption. This conceptual framework, similar to that of Asongu and Nwachukwu (2017) is very much aligned to the key elements observed by this researcher in the CAPACITATING code and is outlined in Figure 5-4.

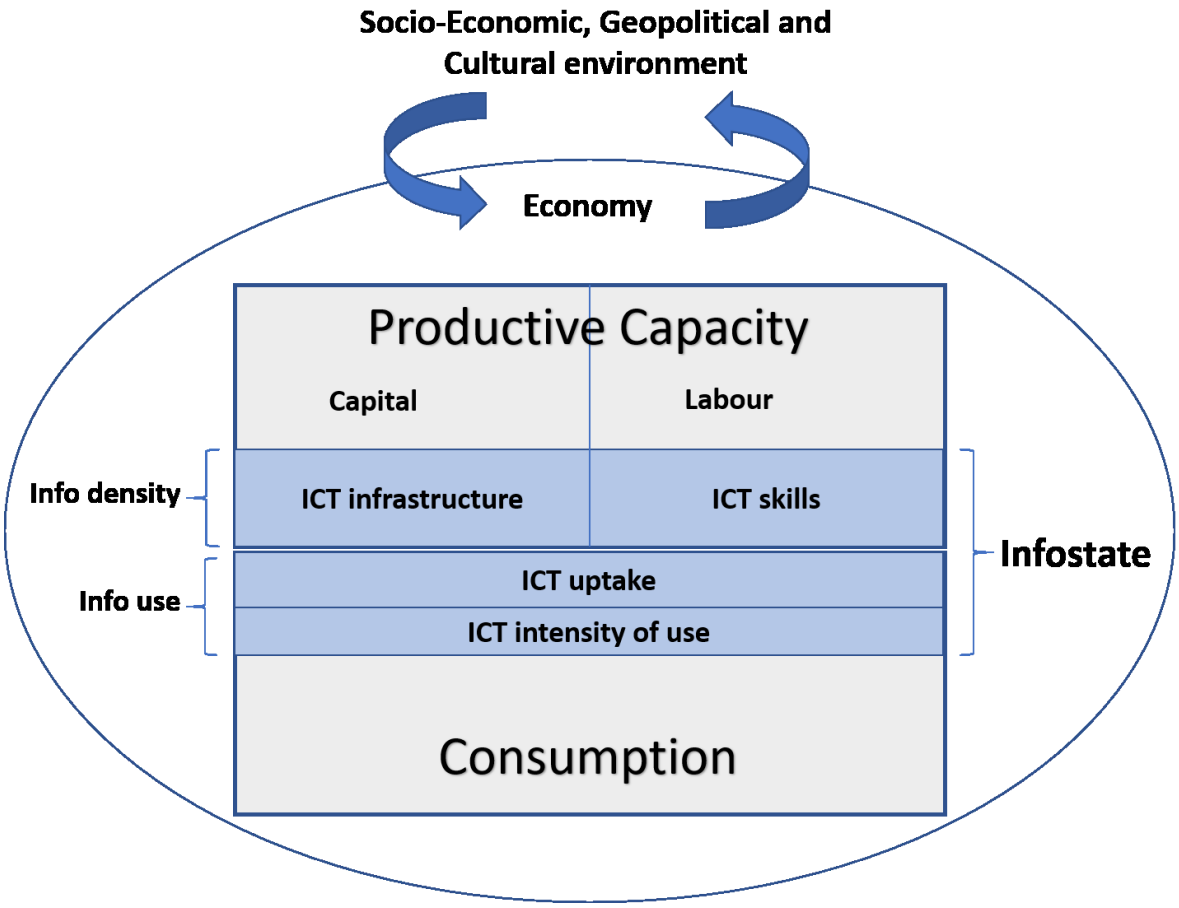



Figure 5-4: A schematic presentation of the conceptual framework of an infostate
Source: (Adapted from Sciadas 2005:301)

Since this study is about generating a theoretical framework, this discussion will not address how the conceptual framework depicted in Figure 5-4 should be utilised as proposed by Sciadas (2005). According to Sciadas (2005), there is a socio-economic, geopolitical and cultural environment that influences and is influenced by the prevailing economy within a country. Within that economy, the infostate consists of infodensity and info-use. The infodensity, which improves the productive capacity, is a result of ICT infrastructure and ICT skills. While no model is a perfect representation of what it claims to represent, the key elements should be conveyed in a manner that makes sense. In terms of the model represented in Figure 5-4, a glaring 'misrepresentation' relates to ICT skills. It is the view of this researcher that ICT skills are not only relevant to enhance ICT productive capacity, but also to enhance the consumption of ICT. It seems self-evident that with enhanced ICT-related skills, info-use may be utilised without any change in infodensity. SADC countries seem to be focusing on ICT infrastructure. This could be the case because it is the most visible and easily quantifiable element required for building the

information society. Because of the pre-eminence of the need for ICT infrastructure in the literature, this researcher deems it necessary to highlight the literature that warns scholars and policy makers against assuming that improving ICT penetration could be the panacea or the only consideration for building the information society for development (Singh, Díaz Andrade & Techatassanasoontorn 2018:38–40). Another related matter is that the availability of ICT infrastructure, inclusive of related intellectual capacity, does not imply that it will be adopted and will increase information use (Kyem 2012; Toyama 2014). There are other factors that also play a role, such as the level of capacity of human resources and the amount of available financial resources.

The importance of human resource development has been emphasised in numerous studies (Diga 2013; Sciadas 2005; Sharma et al. 2014) and the way in which it is argued in the study by Asongu and Nwachukwu (2017) validates what this researcher has observed within the national ICT policies of the SADC countries. This researcher considers human resource development in a much broader sense, including basic education, vocational and technical training, higher education, research and development, as well as changing people's attitudes to ensure that that they do not resist the changes that are brought about by the information society (Asongu & Nwachukwu 2017). It has been noted that introducing new technologies tends to be disruptive and is threatening the way people are used to doing things (Kyem 2012:235–236). Even researchers who are critical of the information society concept such as Garnham (2000) emphasise the importance of knowledge and skills in accessing ICTs. Of course, ICTs also contribute towards increasing knowledge and skills.

Any success in addressing the issues discussed above related to ICT penetration and human resource development is intrinsically intertwined with the availability of financial resources. Despite the apparent obviousness of the importance of financial resources (which this researcher has labelled affordability) for building the information society, there appears to be little research related thereto. The national ICT policies of SADC countries emphasise the requirement for them to capacitate themselves and their citizens through various funding channels as part of their information society programmes. A number of role players who value the

development of the information society have also on their own made efforts to make finances available (Singh et al. 2018). This researcher has observed that several researchers argue that an information society is expected to contribute positively towards development (Thompson & Walsham 2010; Udombana 2005; Zheng, Hatakka, Sahay & Andersson 2018). Others even go to the extent of arguing that underdevelopment worsens the digital divide (Udombana 2005:78). These views are predominantly focusing on the contribution of ICTs to development, rather than on the contribution of development towards the information society. This researcher has observed that the national ICT policies of the SADC countries suggest that the availability of financial and other material resources both at country or individual level is expected to contribute to the achievement of the information society. This observation could imply that a strong economy, as reflected by a higher GDP, is likely to increase a country's chance to build an information society. It has indeed been observed by some researchers that the higher the per capita GDP, the more the infodensity (Diga 2013:119–120). This researcher proposes that more research is required in this regard as this may have the implication that, rather than chasing after the information society, countries could be focusing on increasing their GDP and development.

There are some researchers who advocate that countries should equally strive for a strong economy, a good quality of life and building an information society (Keras & Keras 2008:50–51). This approach is not preferable, as countries need to decide where to concentrate their effort. Although a strong economy could form the basis for a successful information society, which is one of the key elements of a good quality of life, the former is not necessarily an indicator of the latter two. The importance of financial resources is not only applicable to the aggregate of the country, but also to individuals within a country (Diga 2013; Sciadas 2005; Udombana 2005). In addition, some researchers also focus on the role of ICT in reducing poverty (Diga, Nwaiwu & Plantinga 2013; Udombana 2005). Thus, as ICT can contribute to improving the financial position of a society, the latter also expands the level of ICT within that society.

The discussion of financial, human and ICT infrastructure above confirms that the level of development influences the digital divide and information society (Diga et al.

2013; Sciadas 2005:299, 302) and that the level of the information society contributes to improving development (Toyama 2011). In analysing the national ICT policies for the SADC countries and independently emerging with the three capacities that are similar to the three pillars that form the readiness sub-index of the WEF's Networked Readiness Framework which has been utilised to develop the Networked Readiness Index for a number of years since *The Global Information Technology Report of 2012* (World Economic Forum and INSEAD 2012:3–5, 2015:3–6). The Networked Readiness Index is utilised to rank countries, whereas this researcher's capacities have been identified as the key elements within the capacitating theory for building an information society for development. The three key capacities that have been identified by this researcher do not operate on their own; each influence and is influenced by the other two as depicted in Figure 5-5.

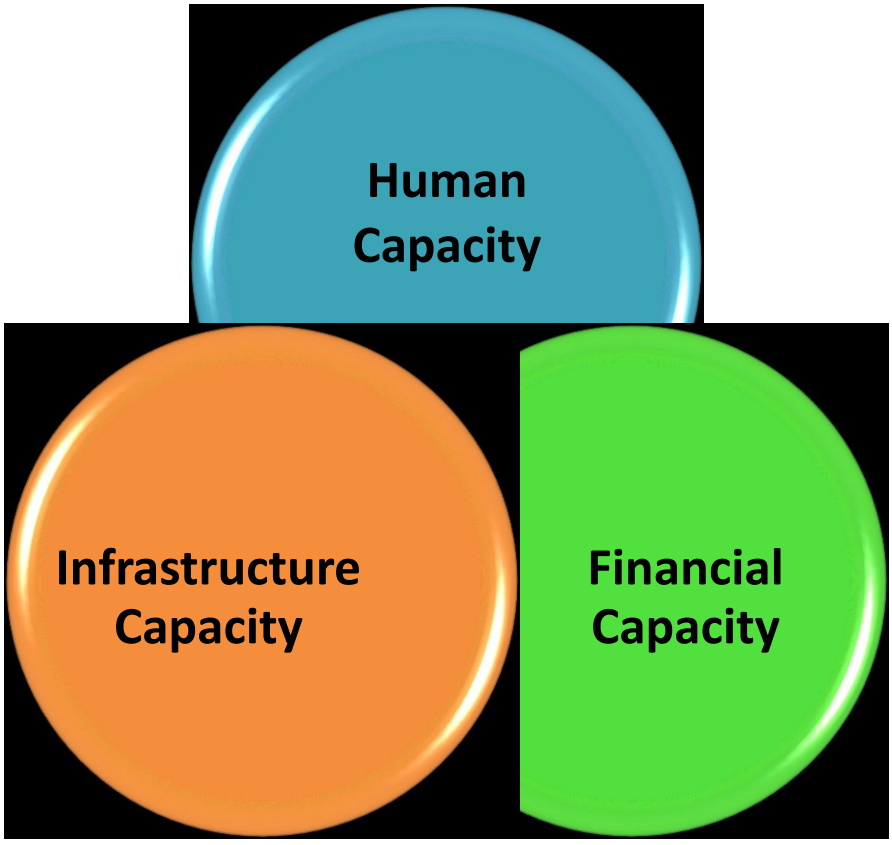



Figure 5-5: The three key capacities priorities by the national ICT policies
Source: Researcher's own analysis

Figure 5-5 simplifies the idea that human capacity influences and is influenced by both infrastructure and financial capacity in a similar manner that the other

capacities influence the rest of the capacities. These three elements lie at the core of the national ICT policies of the SADC countries for building the information society through capacitating. The capacitating concept does not only address the three key themes discussed above, but also what the policies consider to be their foci. The foci relate to which areas of capacity the country should focus on and this researcher has found that the national ICT policies typically address economic sectors and social categories.

Having noticed that the national ICT policies of the SADC countries focus on specific economic sectors has led this researcher to question the rationale for such a choice. At first glance it appeared that the choice of which economic sector each country focuses on is dependent on the analysis of how its development path is matched with the support of the economic sector. There are economic sectors which the SADC countries perceive to be their comparative/competitive advantage. In fact, the intention of the countries is to select industries or industrial sectors that are likely to grow their economies and benefit them more. For SADC countries, these sectors tend to be in mining, tourism and agriculture (Southern African Development Community 2001). This researcher's observation that ICTs are considered to contribute to all the industrial sectors is supported by Nassimbeni (1998:155). There are some researchers who view the advent of the information society as shifting the dominant industrial sectors such as agriculture towards the more technology- and information-rich industries such as the services (Drori 2007:304–305). Table 4-9 suggests that the national ICT policies of the SADC countries are more inclined towards injecting ICTs in all the traditional industrial sectors rather than shifting the focus towards the services. The apparent concentration of reference to the services relates to tourism and public services such as education and health, rather than to new services brought upon by an increase in information-related services.

As reflected in Table 4-10, this researcher has identified five social categories that the national ICT policies of SADC countries intend to focus on in building their information society. Figure 5-6 summarises the dominance of each social category relative to the rest.

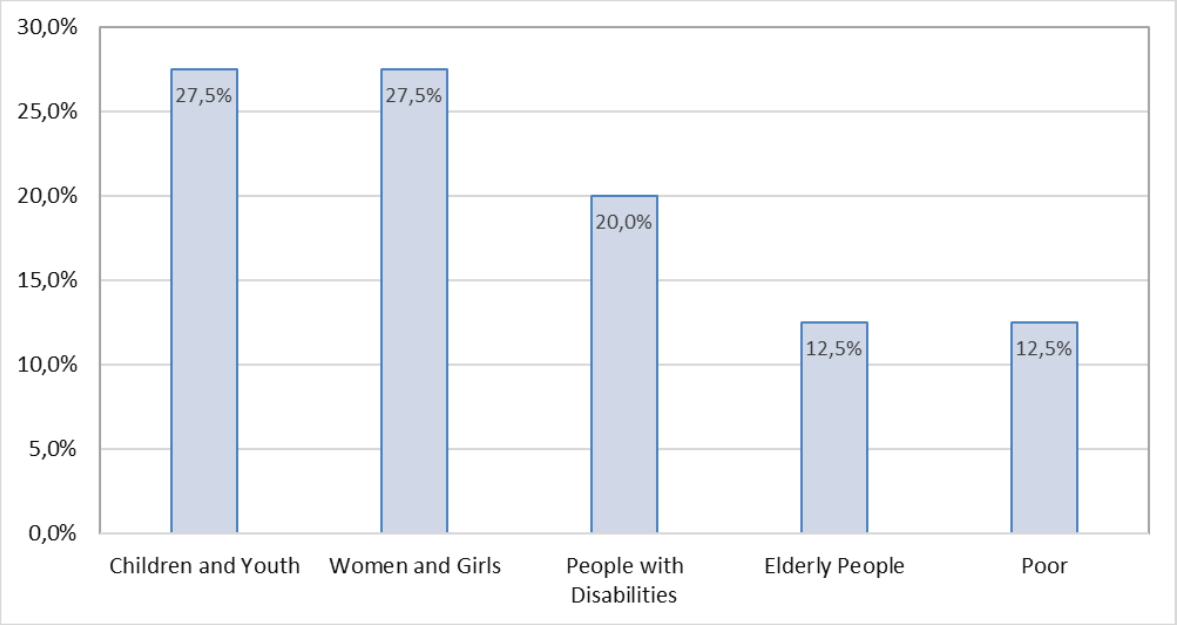



Figure 5-6: Specific categories as a percentage of references to all social categories
Source: Researcher's own analysis

The category of children and youth and that of women and girls are the most dominant with 27.5% of the references of categories by the SADC countries. The category of people with disabilities follows with 20% and the categories of elderly people and the poor are least dominant with 12.5%. This observation raises the question, "Why is this the case?" Some researchers (Diga et al. 2013; Fuchs 2010; Karvalics 2008; Labelle 2005; Vosloo 2005), who base their opinion on the view that the information society is expected to close the digital divide and create a more inclusive society, emphasise the empowerment of what they consider vulnerable or disadvantaged groups as being people with disabilities, youth and women. The inverse of this logic is that the other categories that do play a role in building the information society but are not specifically mentioned may be understood to be at the forefront with regards to ICTs. The size of the social category within the country is an aspect that has been utilised to rationalise the focus (African National Congress 2012; Meta 2007). With regard to the youth and women, an assertion to this effect, combined with the view that these social categories are mostly vulnerable and disadvantaged, has been presented by the SADC Regional Indicative Strategic Development Plan (Southern African Development Community 2001). Other views for specific foci relate to sectoral interests and the influence of those sectors within a particular society such as gender focus groups (Melhem, Morrell & Tandon 2009;

Women'sNet and the Open Society Initiative for Southern Africa 2005). This researcher is of the opinion that all these rationales are applicable within the SADC region and have played a role in the formulation of the national ICT policies of the SADC countries.

This researcher could only establish a single relationship or dimension through which the economic sectors interplay with the social categories. This dimension relates to one of the justifications that the national ICT policies of the SADC countries utilise to focus on the youth. According to the policies, the youth are perceived to have a higher propensity to interact with and take up ICTs. For instance, it was observed in the Commonwealth of Independent States (CIS) that, despite the low ICT penetration rates, the youth were utilising ICT more (James 2012:4). In their report, the South African Foresight Sector Working Group on ICT (1999) highlights what they consider an enthusiasm and desire by the youth for ICTs. As shown on Table 4-9, in almost all the industrial sectors that have been prioritised by the SADC countries, the role of ICTs in that sector plays a prominent role.

The focus of the national ICT policies of the SADC countries on the various economic sectors and social categories as observed by this researcher is consistent with the literature and is likely to be in line with the experience of other countries, an aspect that is discussed in a broader context next.

### 5.4.2 Aligning – Mimicking those perceived to be ahead

Aligning is one of the concepts that appear deep in the national ICT policies of the SADC countries. In this section, this researcher argues why it should not be carried forward as a key element of a desirable theory, despite it being reflected as a key element of the current national ICT policies of the SAD countries.

An observation reported in Section 4.5.2 is that the SADC countries, through their national ICT policies, were copying practices from other countries that were perceived to be successful in building the information society. The countries that are being copied are typically developed countries in North America or Europe, sometimes referred to as the global north in a generalised sense. The copying

reflected in the national ICT policy for SADC countries was coded as ALIGNING. Having characterised the SADC countries as sharing a similar colonial history may provide an explanation of the common practice that has been coded as ALIGNING and could be associated with the decolonial studies related to the concept of mimicry.

There is sufficient evidence to support the view of this researcher that the copying of western countries that seems to underlie the national ICT policies of SADC countries is tightly related to the mimicry as part of coloniality. In developing their national ICT policies, African countries were strongly influenced by role players outside their own countries. The influence of external role players in the development of national ICT policies of African countries, including SADC countries, has been emphasised by researchers such as Chiumbu (2011) and Ojo (2016). Makoza and Chigona's (2013:248) observation was that many of the policies tended to be developed by foreign experts who were not always keenly aware of the local conditions. This researcher also observed the same with regard to policies for countries such as Lesotho, Namibia, Malawi and Swaziland whose development was led by "international" consultants. This could possibly explain the observation by this researcher that the policies seemed to mimic other so-called developed countries and were effectively not implemented in some of the countries.

One possible way of understanding this 'copying' is through mimicry as a theoretical concept that was introduced in postcolonial studies (Bhabha 1984). Although there has been a distinction between decoloniality and postcolonial theories, these have very common characteristics (Ndlovu-Gatsheni 2015:490). For the purpose of this research, it is the similarities between these two concepts that matter, as both are able to make sense of what has been observed by this researcher.

The fundamental point of departure in decolonial studies is that coloniality is more than the existence of the colonial administration. In other words, one can experience coloniality even after countries that were colonised have received their independence from the colonisers. Coloniality reflects the relationship between the coloniser and the colonised that exists even after the colonialism has formally ended and places one group of people to be superior to another often along the lines similar

to those in the colonial context (Maldonado-Torres 2007:243–249). Coloniality is part of the continued domination by the western world and is done by making the developed countries' success attractive (Quijano 2007:169). In other words, Quijano (2007:170) expresses coloniality as the "most general form of domination in the world today, once colonialism as an explicit political order was destroyed". When Ndlovu-Gatsheni (2013:11) describes coloniality as "a leitmotif of global imperial designs that has been in place for centuries", he brings to the fore the idea that it is a key marker of the existence of the colonial relationship between the coloniser and the colonised.

Coloniality is apparent in the framing of the information society development for developing countries as an initiative to bridge the digital divide, as well as the observation that developed countries are more advanced in terms of the information society to the extent that developing countries are aspiring to reach their level. This view is supported by the argument of Ndlovu-Gatsheni (2013:11) that race was an organising principle for coloniality and for the distinction of, for example, developed and underdeveloped people. Coloniality is undesirable as it perpetuates the colonial relations and, within the context of the information society, will never bridge the digital divide. This is the perspective that makes coloniality and mimicry relevant for this study. Yoon and Chae (2009:27) mention the similarity between the national e-strategies, which are the national ICT policies, of the developing countries and those of the developed countries; yet there seems to be little progress in the less developed countries.

In discussing mimicry, this study has adopted the version presented by Bhabha (1994; Gupta 2013) as it is linked with coloniality in a manner that can best explain the phenomenon observed through this research. The deep entrenchment of mimicry in coloniality is described by Bhabha as "the most elusive and effective strategies of colonial power and knowledge" (Bhabha 1984:126).

There are critiques (JanMohamed 1985; Lee 1997) of Bhabha's theories related to mimicry and other related concepts; however, these will not be entertained as they do not provide an alternative to Bhabha's conceptualisation of mimicry, which can be used to understand the observations from this study. This is especially because

these different views were specifically discussing the concepts in relation to the role of the literature of the colonial power influencing the psychology of the colonised people. Furthermore, from the reading of these critiques by this researcher it was found that rather than that reject mimicry as a reality, they challenge how Bhabha theorises about how it operates. For instance, JanMohamed (1985:61–63) and Lee (1997:99) argue that colonialism operated in a number of phases; one of which was hegemonic, thus leading to colonised people "accepting" the colonisers' ways as the norm. The current research deems mimicry a plausible explanation for the ALIGNING as coded from the national ICT policies.

Mimicry is the behaviour of colonised or formerly colonised people of copying some characteristics or practices of their former colonisers based on them being perceived to be superior (Bhabha 1984:126). This researcher's contention is that some of the former coloniser's practices or characteristics are not superior. To illustrate, it is not better to evaluate a country's success in terms of how it compares to others rather than how the country serves the needs of its citizens. The Networked Readiness Index (World Economic Forum and INSEAD 2015) is sometimes utilised as such a measure of success. Mimicking behaviour could be propped by actors who act in the interest of the colonisers or by the colonised people themselves as an effect of the colonial experience (Bhabha 1984:126). The effort by SADC countries to become information societies could be construed as what Gupta likens to countries becoming blind adherents to modernity, thus copying and mimicking whatever comes their way (Gupta 2013:5). On the other hand, the complexity of mimicry is expressed by Bhabha who sees mimicry as being constructed around ambivalence and as a tool of disavowal and mockery of the colonisers (Bhabha 1984:126–128). In other words, it may be difficult for an observer to determine if the mimicry is copying the behaviour of the former coloniser out of adulation or in order to ridicule for the coloniser's way of doing things.

Another argument, albeit not from the decolonial or postcolonial perspective, that supports the mimicry observation is the one presented by Garnham (2000) who argues that the information society is a legitimising ideology of the dominant groups that hold economic and political power. Furthermore, Garnham (2000) argues that because economically powerful countries have and depend on continued access to

communication technologies, they promote the information society for their own interest. According to Garnham (2000), the information society is a global ideology linked to post-modernism, it should thus not be expected for countries to have a materially unique information society or national ICT policies.

The mimicking that has been observed in the national ICT policies of the SADC countries makes sense on the basis that the information society can also be considered as part of a global agenda. The conclusion that the information society is part of a global agenda that is arrived at by considering the views of Drori (2007), Van Audenhove, Burgelman, Nulens and Cammaerts (1999) and Meyer, Boli, Thomas and Ramirez (1997), who argue that the information society is intricately linked to international systems and globalisation albeit not necessarily based on any agenda of the powerful. Drori (2007) places the role of the United Nations as key driver of the information society policy agenda based on the globalised environment. Meyer et al. (1997) explain this global agenda from their theory of a world society. The main point of a world society theory is that there is so much commonality in the world, such that even if a new nation or state that is currently not known were to be 'discovered', that society would move towards aligning with the norms and practices currently prevailing (Meyer et al. 1997:145–146). This view (Meyer et al. 1997) fails to recognise the fact that since we, as the current known world system, are not aware of such a new society, there is no basis for us to determine how this society will respond in making contact with us. In addition to the role of international organisations, Van Audenhove et al. (1999:390) have observed that developing countries are being advised to adopt the same policies as those of developed countries. While recognising the current influence of the developed countries on the developing countries and the information society as a global phenomenon, the author is of the view that mimicry is not predestined.

The response by the informants engaged for this study seems to be more aligned to the view of the modernisation theory that focuses on the view that development should inevitably follow a path like those who are now developed. Modernisation theory has been discredited, especially by the dependency theory which has argued that the developed countries have not been where the developing countries are and, therefore, the path may be very different (Nulens 2003:69–71). Note the similarity

between developed vs developing countries and information societies and non-information societies, where the former has the “development divide” and the latter has a “digital divide”. The digital divide is framed in terms of the developed and less developed countries, However, the conceptualisation of how the digital divide is bridged in terms of the achievement of the information society is not conceptualised in a similar manner to that of “development theory” conceptualisation of these two concepts.

An assertion that the national ICT policies of SADC countries are copies of the ideas from developed countries, suggests that a theory that is extracted from these policies cannot be truly a theory emanating from within the SADC, but rather a global theory. This assertion does not explain why, as alluded to in Section 1.4, the SADC countries have not succeeded in building the information society despite them having adopted correct policies based on a correct theory. An obvious explanation may be that learning from other jurisdictions is very difficult (Bauer 2010). According to one of the informants for this research, the failure of the national ICT policies of SADC countries is likely because of the failure of these countries to learn from other jurisdictions. In a manner similar to how Poveda and Roberts (2018) address the weaknesses of the capabilities approach, this researcher suggests that the negative mimicking observed in the policies of the SADC countries could be addressed through the application of critical theory (Poveda & Roberts 2018:122, 124). In this view, critical theories allow the dominated groups to “inform their agency to act in pursuance of valued goals” (Poveda & Roberts 2018:122).

### 5.4.3 Governing – Making sure everything works acceptably

In responding to the research question related to the implicit and explicit approaches and theoretical grounding embedded within the policies of the SADC countries, governing comes out as one of the key concepts as discussed in Section 4.5.3. While the policies indicated the centrality of governments in the development and implementation of national ICT policies and consequently the drive towards the information society, this is by no means a given. For instance, Cohen and his co-writers are of the view that it is possible that “ICT can be developed and promoted without government intervention, and be properly managed by the private sector” (Cohen et al. 2002:50). It is the view of this researcher that it is not a given that

national plans must necessarily be led by governments. In Chapter Two, Section 2.6, it was stated that Japan was one of the first countries to develop a national information society plan. This plan was developed by the Japan Computer Usage Development Institute (CUDI), a non-governmental organisation that was promoting ICTs (Duff 2004:72). Once the plan was developed, it was handed over to the Japanese government. However, whether developed by government or not, information society plans require that the entire society should implement them.

The development of all the policies that are analysed in this study has been led by national governments and have emphasised the need for consultations with stakeholders. The difference has been the emphasis of which stakeholder has been perceived as key and the process undertaken to engage those stakeholders. In discussing the reasons for the failure by African countries to implement the information society, Makoza and Chigona have identified “lack of resources, limited skills designing policies, lack of information to support policy decisions, lack of understanding needs, lack of legal frameworks to support policy implementation activities, limited participation of stakeholders and power imbalance among stakeholders” (Makoza & Chigona 2013:249). Save for the issues of human resources, financial resources and infrastructure which have been discussed in the previous sections, the rest relate to governing. Makoza and Chigona (2013) focus on the involvement of stakeholders to ensure the success of the information society programme. In the development of every national ICT policy, there should be a clear determination of which stakeholders should be engaged and at which stage for the implementation of the policy to be successful.

It has been reported that during the WSIS, the issue of governance was debated primarily with other stakeholders emphasising the role of governments (Kurbalija 2012:5–7). Consequently, the WISIS agreed on a working definition of the internet governance as “the development and application by governments, the private sector and civil society, in their respective roles of shared principles, norms, rules, decision-making procedures and programmes that shape the evolution and use of the Internet” (United Nations World Summit on the Information Society 2005a:34).

There are several different approaches to understanding governance which have been utilised within ICT (Asongu & Nwachukwu 2018). Without expanding on these, but based on them, this research considers governance as involving the management of power relations and how that power is exercised in the execution of different activities, particularly where numerous stakeholders are involved. It is for this reason that the issue of legislation, policies, plans and strategies should be considered within the domain of governing and governance. The issue of governing not only relates to how to relate to different stakeholders, but also to what rules and policies are applicable. Almost every element of building the information society touches on the concept of governing or governance.

Based on this researcher's understanding of governance within the information society programmes of the SADC countries, as reflected in the national ICT policies of these countries, this researcher observed no reference to the governance debates such as those related to the management of the Internet as discussed by Kurbalija (2012). This is not a surprise as the policies were more focused towards the building of the information society within their countries. However, it is the view of this researcher that some of these governance issues could have an impact on the success of information society within their jurisdictions.

ICTs are useful in improving governance within countries as they contribute towards the free flow of information between stakeholders and transparency and, hence, more effective communication (Asongu & Nwachukwu 2018:3). A slightly different take on this is that one of the ways that the information society contributes towards development is indirectly through its contribution to good governance (Meso, Musa, Straub & Mbarika 2009). The participants in the WSIS in Tunis recognised that ICTs promoted good governance and the rule of law and committed themselves to building the information society by observing good governance at all levels and by all parties (United Nations World Summit on the Information Society 2005b). Due to the level of consensus on the matter, there should be no doubt regarding the role and importance of good governance in the process of building the information society.

## 5.5 A theory for building the information society with SADC countries

Since the main purpose of this research is to develop a theory or theoretical framework that SADC countries could utilise to build an information society, it is unavoidable that at some point this researcher must discuss the nature of this theoretical framework. In the previous sections, this researcher has explored the key concepts that form the foundation of this theory that this researcher is proposing. In this section, this researcher first clarifies what this model, theory or framework will look like, and then brings all the concepts together to present it.

### 5.5.1 Theories and how they differ from models or frameworks

Since the intention of this research is to generate a theory, it is thus necessary to clarify the differences between a theory, a theoretical framework and a model. To avoid the complex philosophical debate related to these interrelated concepts, this section will simply clarify the position of this researcher on this matter.

In discussing models of innovation, Godin (2015) has gone to great lengths to clarify what models are and how different researchers have used the idea of a model in their research. Among the many different usages of the term is the one that views a model as a representation of what exists or a simplified description/explanation of a process or social phenomenon. In line with this understanding of what a model is and how it relates to a theory, a model is one of the means of representing a theory (Gregor 2006:620). A model is the representation of a theory or of a phenomenon, whereas a theory is more than a representation of a phenomenon. It is the view of this researcher that the distinction between a model and a theory is based on the goals of these two concepts. A theory has one or more of the following four goals: analysis and description, explanation, prediction or prescription (Gregor 2006:619), whereas a model has the purpose of representation (Godin 2015:30; Gregor 2006:620). Since a model could be based on a theory, the distinction between the two is often blurred. Even the most basic type of theory in terms of the taxonomy provided by Gregor (2006:619), which is analysis and description, has an end that is more than representing a phenomenon. Despite this distinction, Godin's view is that models "are nothing else than theories, under a different name" (Godin 2015:42). To simplify the presentation of the results of this research, the word

"model" will be used to denote a **representation** of a concept, theory or theoretical framework rather than as a theory.

In Section 2.1 of this thesis, conceptual, theoretical and practical frameworks were identified as the three types of frameworks relevant to research within the social sciences. In that section, a theoretical framework was characterised as one or more theories. While acknowledging and describing the different types of theory, Gregor (2002:2, 2006:614) utilises the word "theory" broadly to include what is also referred to as conjecture, model, framework or body of knowledge. In that sense, a framework is another form of a theory and thus should not make any material difference. Gregor (2006:623) refers to a framework as another name for a theory. Separating the meaning of framework from that of theory provides this researcher with the ability to name a slightly distinct concept, which is defined next.

This researcher utilises the term "framework" to refer to a skeleton of a theory providing a set of principles or ideas related to a phenomenon, thus there would still be room to provide more detail. The choice of the use of the word "framework" emphasises the fact that more work still needs to be done to put more flesh on the skeleton between the use of the framework to develop an information society plan, policy or strategy. To validate this view, this researcher perused eight out of twenty-five (32%) theses in the five years from 2013 to 2017 within the Information Science Department at Unisa that had the word "framework" in their titles. The frameworks proposed in these theses were such that there was still room to provide detail in line with the view of this researcher present above.

### 5.5.2 Theory underlying the national ICT policies for SADC countries

In addressing the purpose of this research, this researcher is proposing that the national ICT policies of the SADC countries are based on the capacitating theory for building the information society that is outlined in Figure 5-7.

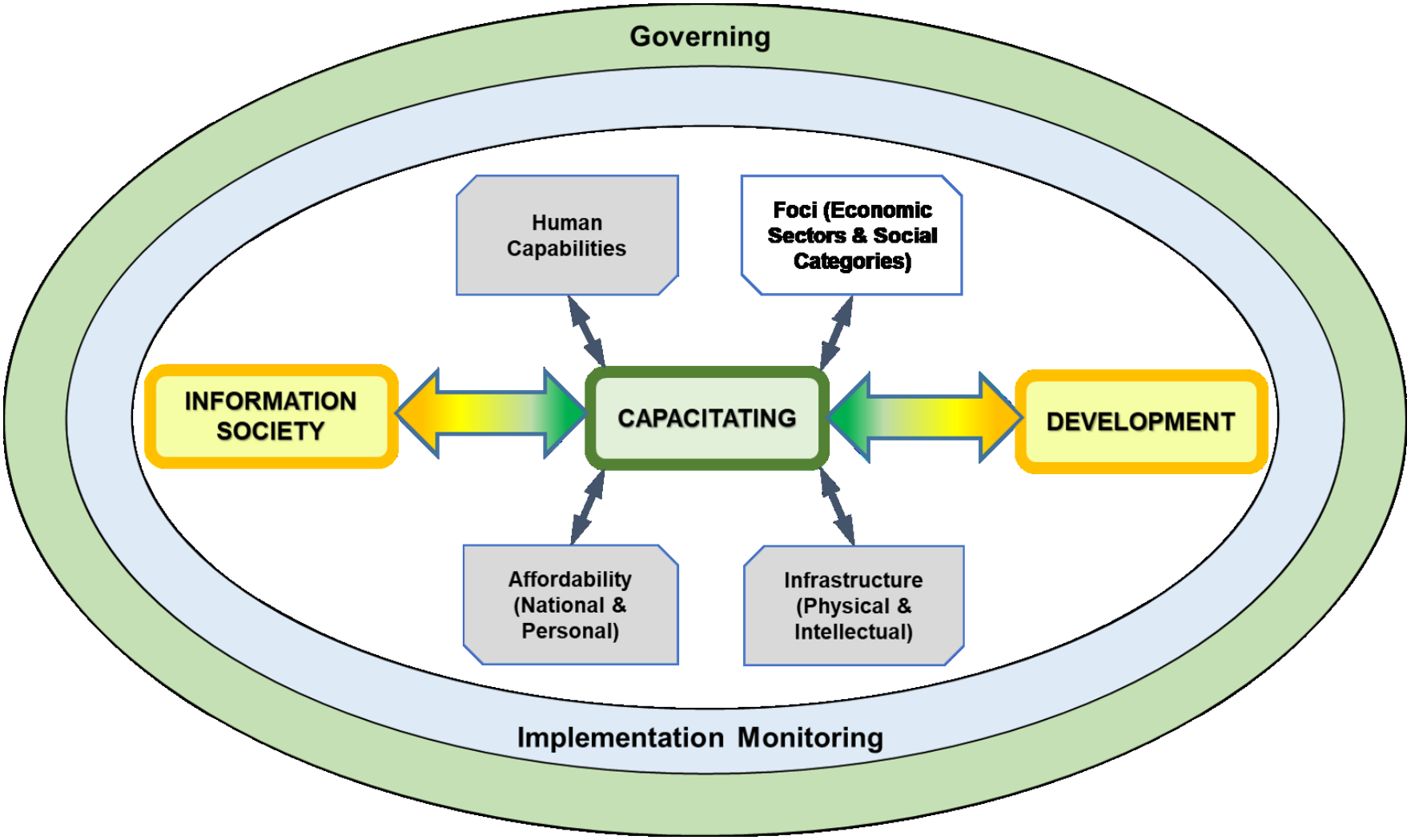



Figure 5-7: Preliminary model of the capacitating theory for building the information society for development in SADC countries

Source: Researcher's own analysis

Figure 5-7 presents a preliminary model that illustrates the key concepts or factors that should be considered when developing a programme for building an information society for development. At the centre of the Capacitating Theory for Building the Information Society for Development (CaTBIS-4D) is that capacitating their society in terms of infrastructure, financial and human capacity is critical for building the information society. The nature and issues related to capacitating were discussed in Section 5.4.1 and will not be repeated here. The following quote from Rao (2003:7) supports the main thesis generated by this study; that building the information society within the SADC countries is essentially about capacitating as presented in Figure 5-7:

> Challenges on the information society frontier in developing nations have typically revolved around inadequate access to digital tools, poor supply of electricity, high cost of online access relative to local purchasing power, lack of awareness about or skills related to ICTs, lack of local relevance of online services, lack of local language content and tools, concerns over security and reliability of ICT infrastructure, lack of supporting legal protection for online transactions, unsustainability of many ICT pilot projects, poor participation in global standards councils and government foot-dragging over creating a level playing field for telecommunication and data communication operators.

These inadequacies are founded on an approach that Rao (2003) has developed for analysing the information society in the digital age that is based on eight parameters and is referred to as the "8 Cs" framework. This framework has been adopted by the ITU and has been designed specifically for developing countries (Dragomirescu & Tighineanu 2012). The parameters for the "8 Cs" framework are connectivity, content, community, commerce, culture, capacity, cooperation and capital. The "8 Cs" framework is essentially based on a characterisation of the information society on criteria, the eight parameters that Rao considers to be necessary for the information society. In Rao's view, to build an information society would thus require an assessment of a country against the said parameters and acting to address those that are perceived to be lacking (Rao 2003:8).

Rao's (2003) "8 Cs" framework does not seem to recognise that the level of development of a country or economy has an impact on the information society development, which also has an impact on capacitating. In other words, the process is bidirectional rather than monodirectional. Since Rao (Rao 2003:13) argues that the "8 Cs" framework is relevant to both developing and developed countries, it would not make sense to ignore the role of the level of development in facilitating the achievement of the information society. Section 2.4 discusses what development is and some of its measures. The description of the digital divide by Bridges.org as quoted by Rao (2003:21) as a failure of development initiatives, supports the author's view that development could be seen to be contributing to the information society, in this case by virtue of reducing the digital divide.

Another key differentiator between the current framework and that of Rao (2003) is that the latter addresses capacity only in terms of skills. For Rao (2003), capacity is a synonym for human capacity in the sense of knowledge and skills. In describing capacitating in a broader manner, the theoretical framework that is being proposed in this research brings forth a more elegant theory. Another issue is that Rao (2003) includes the legal aspects within commerce category, whereas this researcher utilises legal considerations within the governing concept which has an impact on all aspects of building the information society.

Although it has not been explicitly stated within the national ICT policies, the policies perceive the information society and development as two sides of the same coin. In this sense, the one could not exist without the other.

The availability and accessibility of infrastructure sits at the core of many information society development approaches. The criticality of infrastructure in building the information society is one of the key underlying propositions that national ICT policies of the SADC countries accept. It is noted that the infrastructure that has been identified is both the ICT-related infrastructure as well as the supporting infrastructure such as that for electricity and roads without which the ICT infrastructure will not function. With regard to ICT infrastructure, connectivity with acceptable bandwidth as well as the relevant and appropriate content is prioritised.

In capacitating human capabilities, the aim is to provide basic education, relevant ICT-related skills and higher education, as well as to influence the hearts and minds of the members of society towards being able and willing to utilise information resources (through information and communication technologies) for their own and society's benefit.

Another key proposition propagated by the national ICT policies is that to capacitate human capabilities and infrastructure, financial resources are required. In that regard, the national ICT policies of the SADC countries consider the sourcing of these funds from the country's own resources in terms of their budgets or from international funding community as a key consideration. Another key consideration relates to developing various mechanisms to bridge the financial gap that people have in accessing the infrastructure or the human capabilities. These measures include reducing costs by promoting competition between ICT service providers, promulgating laws that will ensure reduction of costs, as well as providing some of the infrastructure and services for free or at reduced costs.

It appears to this researcher that the framework provided in Figure 5-4, describing an infostate, excludes financial capabilities because it is probable that it is attempting to be more universal and applicable to countries that have no major issues with financial resources and the individual affordability for accessing ICTs. For developing countries, the issues related to affordability both from a country and individual perspective are something that cannot be ignored in the formulation of a plan to build an information society.

Another key proposition underlying the national ICT policies of the SADC countries that is intended to ensure that the information society is effectively achieved and more inclusively addresses what the economic sectors and social categories of the capacitating activities should be focusing on. The economic sectors that the SADC countries are focusing on are agriculture, mining, tourism, as well as services such as health and education. The social categories that the SADC countries focus on are women and girls, youth and children, people with disabilities and, to a lesser extent, old people.

The concept of aligning what has been identified in the national ICT policies is being rejected because it reflects the activities of mimicking what the developed countries are doing or suggesting. Capacitating could play a role as the antithesis of mimicking through ensuring that the capacitating activities are only driven by local considerations.

The national ICT policies of the SADC countries suggest that governing and implementation monitoring are capable of both limiting and enabling the capacitating actions necessary to achieve both the information society and development. These two concepts within the proposed theoretical framework overcome some of the criticism often levelled against Sen's capability approach. The criticism that is raised is based on the perceived lack of attention to power relation in Sen's capability approach and approach (Poveda & Roberts 2018:119). Even the policies themselves are based on the view that implementation supported by a rigorous monitoring and evaluation programme should be integrated into all phases of the policy processes (Makoza & Chigona 2013:250; Ulrich & Chacko 2005:195). In rounding off, the theoretical framework for building the information society would be incomplete without governing and implementation monitoring as its shell, the entire contents of which fall apart when put into practice.

## 5.6 Chapter Five summary

In this chapter, the findings presented in Chapter Four were discussed from this researcher's point of view and in relation to the literature to determine whether these findings make sense. This discussion reflected the insights and arguments presented throughout all the other chapters of this thesis. Key to this is the discussion of capacitating the human capability, infrastructure and finances of certain focused sectors and groups to build an effective information society within the SADC countries. The chapter concludes with the enhancement and elucidation of the model of a theory underlying the national ICT policies of the SADC countries based on the CaTBIS-4D.

# CHAPTER SIX: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

## 6.1 Introduction

This concluding chapter follows on the previous two chapters that presented, analysed, interpreted and discussed the research findings to develop a theoretical framework for building an information society for SADC countries. As recommended by Trafford and Leshem (2008:128–145), the concluding chapter of a thesis has to distil all the previous chapters in order to present a rounded and critical argument that responds to the research questions, indicate the contribution that the research makes towards knowledge and propose an agenda for further research. Similar sentiments have also been presented by information science researchers such as Ngoepe (2012:185). In line with this approach, this chapter will, firstly, present the summary of the findings based on the research objectives, then it will communicate the conclusions that have been arrived at and then it will give some recommendations. Next, the chapter will propose a framework for building an information society for SADC countries and will lay out what this research contributes to theory and practices and will disclose its limitations. Following these, recommendations for further research are presented. The chapter is rounded off by a presentation of overall conclusions.

## 6.2 Summary of findings

The summary of findings that is presented in this section is based on the research objectives. The purpose of the current research is to develop a theoretical framework for building an information society that would be useful for SADC countries and African countries in general. The information society has become so significant for countries that almost all countries had made efforts to develop policies for its achievement, and the information society has emerged as a significant research area (Karvonen 2001; Kasvio 2001). This researcher has argued that the aspect of building theory mainly related to building the information society is an area that requires more research. Despite the observation that most SADC countries have developed national ICT policies, the underlying theory within these policies has not yet been exposed (Checchi et al. 2003:45, 2012:57–58; Cohen et al. 2002:43). It is worth emphasising that the national ICT policies are aimed at laying

the foundation for building the information society and, hence, it is these policies that this research utilises as a basis for developing a theory for building the information society for SADC countries.

To extract the theory from the national ICT policies of the SADC countries, this researcher adopted a design based on the grounded theory approach, which is considered suitable for the development of theory (Babbie 2014:315; Charmaz 2006:xi; Urquhart 2013:3). The data collection was conducted in two phases, where the first phase consisted of a content analysis of the national ICT policies of the SADC countries. The second phase entailed the interview of individuals who have been involved in the development or implementation of the national ICT policies. The two-stage approach was intended to improve the quality of the research as a form of triangulation. Of the 15 SADC countries, 12 had national ICT policies readily available to be analysed. This researcher interviewed five informants who included individuals who play a role in ICT regulation, coordinate the development of national ICT policy, assist multiple SADC countries with respect to the development of national ICT policies, support the revision of national ICT policy, as well as support multiple countries in implementing aspects of their national ICT policies.

### 6.2.1 Findings on the rationale of the national ICT policies

Based on its purpose, and having followed the approach just described, this researcher observed that the SADC countries considered the development of national ICT policies as significant based on the expectation that they will built and information society, which will contribute towards development; thus, building better lives for its citizens. However, no relationship was observed between the duration for which a country had a national ICT policy and any improvement in the HDI.

### 6.2.2 Findings on the package of policy instruments for building the information society

Although the national ICT policies were perceived as essential for building the information society, they were part of an array of other policy instruments. These included international documents such as the WSIS outcomes documents, AISI, SADC Declaration on ICT, SADC Protocols and NEPAD; national legislation such as those that deal with the freedom of information and those that regulate electronic

communications; there are also policies or plans that address an aspect of the information society within a country. Many of the SADC policies raised the need for legislation to promote the use of ICTs, the regulation of competition, electronic evidence, e-commerce, and the ICT sector, as well as put in place measures to ensure safety and protection in cyberspace.

### 6.2.3 Findings on key concepts within the national ICT policies driving the success of the information society

The findings related to the underlying theories embedded within the national ICT policies were that capacitating was a crucial activity for building the information society. Capacitating refers to the effort of information society role players to increase the capacity, capability and propensity of a society to productively use ICTs in the daily lives. These efforts were to be directed in the domains of human capability, infrastructure and finances. It was also to be directed at certain selected industrial sectors like agriculture, mining, tourism, health and education, as well as social categories such as the children and youth, girls and women, and people with disabilities. The research also discovered that most of the national ICT policies seem to be addressing the same issues and possibly mimicking the views of the developed countries that they considered to be ahead of them. The similarity of the issues justifies some level of applicability of the outcomes of this research to the SADC countries.

### 6.2.4 Findings on the theoretical framework underlying the national ICT policies of the SADC countries and improving information society development

The research confirmed that there was no specific framework for building the information society specifically for SADC countries that has previously been developed. Furthermore, the research found that embedded in the national ICT policies of the SADC countries were the key concepts that were utilised to develop a theoretical framework that could be utilised to improve information society development. The theoretical framework that is proposed is presented in Section 6.5.

## 6.3 Conclusions about the research objectives

From the findings discussed above and based on the research objectives, the conclusions presented in the subsections that follow were arrived at. These conclusions underpin the theoretical framework which this study proposes, and which is presented and discussed in Section 6.5 of this chapter. It is argued that this theoretical framework should improve the implementation, monitoring and evaluation processes of the information society within the SADC countries and hopefully other developing countries.

### 6.3.1 Conclusions on the rationale of the national ICT policies

There seems to be two positions that could be adopted with regard to the relationship between the information society and development. One, that national development plans or strategies would lead to the achievement of the information society and, two, that the information society would inevitably lead to socio-economic development. The latter is an approach that is prevalent in the national ICT policies of the SADC countries. This research proposes that both information society and development are mutually reinforcing.

Information society is a strategy and a result of socio-economic development; however, SADC countries do not manage these as such. They treat it as a separate programme almost with separate lines of activities. For SADC countries to succeed in building the information society, they should manage their development programmes and information society programmes as components of the same mega-programme.

### 6.3.2 Conclusions on the package of policy instruments for building the information society

Without nullifying the conclusion in 6.3.1, any effort to build an information society does not need to be based on a single policy document, it is based on a composite set of documents and policy statements. These include international policies that a country has adopted as its own, national development plans which refer to the information society-related programmes, specific sector policies such as e-health, e-education policies, and legislation to support the development of the information

society. All these documents combined constitute a country's national ICT policy. Although not encouraged, it is theoretically possible to advance the information society without a documented national ICT policy.

### 6.3.3 Conclusions on key concepts within the national ICT policies driving the success of the information society

The key activities that SADC countries are focusing on when they build the information society are aimed at increasing the capacity, capability and propensity of members of that community to utilise ICTs which this research refers to as ***capacitating***. The level of a country's development has a direct impact on how this can be achieved and set the limits on what is possible.

***Capacitating*** can be understood within the capabilities approach that has been proposed by Amartya Sen. Through capacitating, people obtain access to certain commodities that may grant them capabilities to satisfy whatever they wish for. In the narrow scope of the information society, this emphasises the need to improve ICT penetration. However, ICT penetration on its own is not sufficient as it does not imply that it will add value. Additionally, this requires knowledge, skills and the willingness of people to utilise the infrastructure. Furthermore, ***infrastructure capabilities***, ***human capabilities*** and ***financial capabilities*** must be acquired.

The SADC countries' choice of the economic sectors they will ***focus*** their efforts on, appears to be influenced by what the countries consider to be their strength based on their economic history as well as what they consider to be the services that government has an imperative to deliver. In this regard, they consider agriculture, mining, tourism, education and health. This approach may limit the options that the countries could have to develop their economies in successfully new ways.

The determination of the social categories that the SADC countries will ***focus*** on in building the information society seems to be influenced by the size and the level of influence that the category has in that society. A greater consideration seems to be focusing on social categories that seem to be the perceived marginalisation of that category of people. The potential contribution of the category to the achievement of

the information society seems to be only applicable to the children and youth category. Since the ***focus*** is on more than one area, it is referred to as ***foci*** in the proposed theoretical framework.

The national ICT policies of the SADC countries appear to be ***mimicking*** those of the developed countries owing to the influence of external role players in the development of these policies. This observation reflects coloniality within the information society discourse. Another possible explanation for the ***mimicking*** that has been observed may be the dominance of the multinational bodies in this sphere. Whatever the case, any imitating should be critically tempered with the views from the SADC countries that emphasise their own agency.

The central role of governments in the ***governing*** of the information society within the SADC countries has the potential of bringing all the national role players together and having a coherent programme. It is critical for the success of the information society to marshal all the role players, depending on the society, and this does not have to be led by government. To successfully build the information society, the programme should survive changes in the political administrations in a country and the fora established for this purpose should be as broad as possible.

The penetration and adoption of ICTs are expected to have a positive influence on the ***governance*** within countries since these tend to contribute towards the free flow of information, which tends to promote transparency.

Some of the national ICT policies and the informants have emphasised the importance of ***implementation monitoring*** in the process of building the information society. Without a knowledge of the status of the country with regard to all the other factors as well as the level of progress achieved towards the information society for development, the necessary adjustments to the course of action may not be made and the country could regress or become stagnant.

The concepts discussed in this section form the basis of the theoretical framework that this study proposes. At the very core, the main idea, is capacitating and hence the name of the theory that is being proposed is being referred to as the capacitating

theory. The concept of capacitating is closely related to infrastructure, human capabilities, and financial capabilities all of which should be directed mostly on the identified foci related to the social categories and economic sectors. To ensure that information society that contributes to development is achieved all these concepts should operate with effective governance and implementation monitoring.

A key point to note is that the nine concepts that form the basis of the proposed framework do not operate in isolation, they influence and are influenced by each other. To illustrate this point, the nature of infrastructure influences how much human capabilities can be capacitated, human capabilities influences affordability, and each of these influences each other. Considering all these concepts together, the researcher has concluded that they are able to explain in full, how the SADC countries can effectively achieve the information society.

### 6.3.4 Conclusions on the theoretical framework underlying the national ICT policies of the SADC countries and improving information society development and evaluation processes

The key conclusions related to the theoretical framework that is expected to underlie the national ICT policies of the SADC countries, is the CaTBIS-4D, which is embedded in the framework that is proposed in Section 6.5 and discussed there. It is asserted that this framework is good enough to accommodate any change brought about by the 4IR. The same is true for the objective of the study related to improving the information society development and evaluation process.

## 6.4 Recommendations

To ensure that the people in the SADC countries have better lives that benefit from the information society based on the learnings from this research, the following recommendations are made:

- **Recommendation One.** All the national ICT policies for the countries within the SADC should be reviewed and updated taking into consideration the findings of this research as well as the Sustainable Development Goals adopted by the UN during 2015/16. The review should include the plans for promoting development

in the countries, in consideration of the interrelationship between development and the information society.

- **Recommendation Two.** In updating the national ICT policies, it is recommended that the proposed theoretical framework for the assessment and development of the information society be used.
- **Recommendation Three.** Policy makers, practitioners and researchers should note that written policy on its own is not sufficient and that implementation and monitoring progress to take corrective action is key to the success for building the information society. The content of the policy should include this recommendation.
- **Recommendation Four.** In developing policies, it is critical to use local people in developing national ICT policies. This would form the basis for reducing mimicking. In addition, the team that coordinates the development of these policies should be conscious of and make additional effort to ensure that the information society they focus on is based on local conditions and not just on aspirations to become like the developed countries. This, however, should not be construed as a rejection of the possibility of learning from other countries.
- **Recommendation Five.** Although governing is not presented at the core of the proposed theoretical framework, it sets the boundaries of what is possible within a country. The more politically stable a country is, the more successful it is expected to be in its development efforts. In building the information society, countries need to be aware of the limitations brought about by their governing practices.
- **Recommendation Six.** Due to the linkages between the information society and development, it may take a long time before the information society strategy bears fruit. For that reason, it is necessary to garner all the support for the programme from all the stakeholders that can be mustered. This will make the plan more acceptable to different political administrations.

### 6.5 Proposed framework for building an information society

The framework that is proposed in this section is relevant to SADC countries. This researcher hopes that as the SADC countries gear up to update their national ICT

policies or other researchers evaluate the recently updated policies, they will consider this framework as a point of reference.

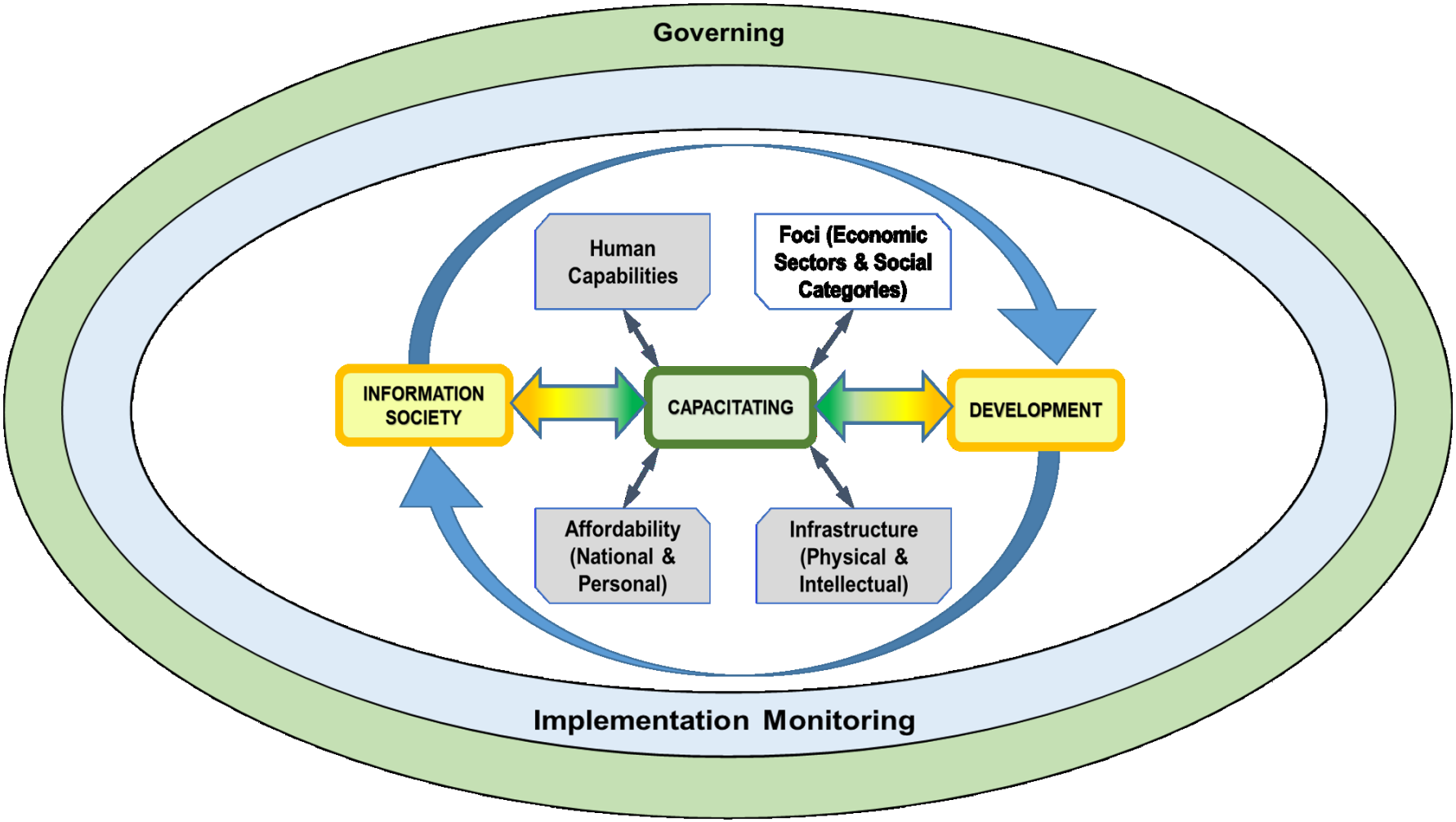



Figure 6-1: Theoretical framework for building the information society for development for SADC countries

The theoretical framework that is depicted in diagrammatic form in Figure 6-1 is based on the CaTBIS-4D that was introduced in Section 5.5.2. The core and driver of the framework relates to capacitating and operates within a governance and implementation monitoring environment.

Capacitating the four main limitations is expected to lead to the achievement of the information society, in addition to development. It is noted, as shown in Figure 6-1, that both the information society and development also contribute towards capacitating. Furthermore, development, impact and is impacted by the information society.

The framework describes the environment around which the information society could be built as relating to, governing and implementation monitoring. These two elements are discussed separately even though they play a big role in ensuring the success of the information society.

The way a country or a society is governed has an impact on everything. The stability of the political administration, the nature of the power dynamics, as well as how these are applied in terms of consultations and the role that different sectors of society plays in the in the process of developing national ICT policies will impact on the success of the information society. In that regard, the model proposes that to successfully build an information society, a country not only needs to be politically stable, but also all the role players need to be involved in the development and implementation of the information society project to ensure that even if there is a change in administration, the project does not get derailed.

Implementation monitoring is an element that focuses on the requirement that implementation is key in the process of and having finalised the development of a national ICT policy. Poor implementation may be because of a poor plan or a weakness in the governing activities. An illustration of this failure is that in one of the SADC countries where this researcher tried to get hold of any official who would share their knowledge on their country's national ICT policy, some of the relatively senior officials in the ministry responsible for ICT were not even aware that the country had had an approved national ICT policy.

A key element of implementation monitoring is being aware of the state and status of the country with regard to the key factors relevant for the building of the information society. This implies determining the state of human capabilities, affordability, infrastructure, as well as the economic sectors and human categories within that society at different times in the process. This relates to the familiar process of measuring the e-readiness of a society as one of the processes before the development a national ICT policy. The outcome of such a measurement would not be to arrive at a score or a ranking, but rather to arrive at a better understanding of where that society is on each factor relative to each other; hence, what the capacitation should focus on. It has also been noted that the use of e-readiness measures has been on the decline and has been replaced by capacity-based measures (International Telecommunication Union 2014b; The Economist Intelligence Unit 2010). In terms of this framework, what needs to be measured are human capabilities, affordability, infrastructure, together with the economic sectors and human categories within that society to determine the level of progress made with regards to the factors that contributes towards the information society and development.

The human capabilities that are required to be measured relate to all aspects that will enable people in that society to effectively participate in the information society. The capabilities that are required commence with the basic literacy and numeracy, technical and vocational skills, together with higher conceptual knowledge that is often acquired at higher institutions of learning. Related capabilities include the willingness of most members of a society to engage with ICTs, which would lead to an increased propensity to do so, limited by the availability of safe and relevant technologies. Since developing countries are often the recipient of knowledge created from the so-called developed countries, this research proposes that, to address the element of human capability, countries should include the ability of a society to develop and share knowledge that is not only relevant to its own society, but also contributes to humanity at large. The building of these skills base is not only dependent on formal institutions, but also on other programmes that could be available in the workplace and other community-based institutions.

Infrastructure is another element that needs to be measured. The infrastructure provides the necessary ICT artefacts such as networks and peripherals. The choice of determining what infrastructure to use should be determined by the nature of the country and the technologies that are relevant. Intellectual capital should be included as part of the infrastructure element since appropriate software is a core and critical part of ICT infrastructure. Furthermore, while electricity may not be considered part of ICTs, currently, electricity is critical factor for the effective functioning of ICT systems and can thus be included among the enabling infrastructures that are key to the building of an information society.

Financial factors play a critical role to develop human capabilities and infrastructure, since financial resources from governments, companies and individuals are required for any activity as identified in a most SADC policies that have been analysed. Measures should be developed to understand the affordability level for that society in general as well as for its members have that could be utilised for information society development programmes. In this regard affordability is a key limitation and thus a key enabler for the building of the information society for SADC countries.

The foci of the information society programmes should relate to both social categories and the economic sectors. The information society is about building a more equitable society; hence it is important to understand that people in certain social categories are generally marginalised within that society. Furthermore, there are people in certain categories that are likely to make a greater impact in the building of an information society. It is thus necessary to understand these social dynamics to effectively determines what to focus on.

This study is also proposing that, since ICTs seem to be applicable in all economic sectors and it is not possible to focus on all the sectors, it is necessary to understand the relevant economic sectors the society is playing in or has decided to focus its efforts on. These need to be assed with a view to ensuring a focus on the appropriate economic sector based on understanding rather than baseless desires.

All these aspects being discussed should be addressed within the context of a society's own needs. The indicators or measures for all the factors discussed would be unique for each country. This point relates to the idea that developing countries should not be benchmarking themselves against developed countries that bear no resemblance to them.

Capacitating the four main limiters to building an information society and achieving higher levels of development should lead to ever-increasing levels of improvement, because every country or society, despite its level of development, continues to strive to develop more (Zheng et al. 2018:1).

### 6.6 Implications of the research for theory and practice

The literature within the information sciences bemoans the dearth of theory-based research within the discipline (Checchi et al. 2003:45, 2012:57–58; Cohen et al. 2002:43). This researcher hopes that this research contributes to both theory and practice, particularly related to the development of the information society as discussed hereunder:

- This study proposes an understanding that the theoretical underpinnings of the current national ICT policies of SADC countries are based on CaTBIS-4D. This theory is also utilised to develop the theoretical framework that is graphically depicted in Figure 6-1 for building the information society for SADC countries.
- The theoretical framework for building the information society for SADC countries is simple and generic, yet good enough to be useful as a framework to develop or evaluate national ICT policies by both researchers and policy practitioners.
- Furthermore, the proposed framework is open ended and is likely to be useful in both theory and practice for longer, as opposed to frameworks where the penetration of or access to specific technologies is measured thus forcing a universal normative interpretation of the information society and how it should be measured or developed.
- This research proposes a different explanation to the perceived failure of SADC and other developing countries to achieve the intended information society. To

understand the failure to achieve the goals of the information society, one should realise that no country can achieve an information society without making sufficient progress in socio-economic development. The dominant view, which has been encapsulated in the conceptual framework proposed in Chapter Two and diagrammatically depicted in Figure 2-4, has been that socio-economic development is a direct result of the information society. This research proposes that the information society and development are mutually reinforcing and pursuing the one without the other will lead the stagnation of society.

- This study has highlighted mimicking as a potential weakness in the development of national ICT policies of SADC countries and has hoped that policy coordinators will be wary of that and veer away from that practice.

## 6.7 Limitations

This researcher wishes to bring to the reader's attention some of the limitations of this study, which are discussed in the rest of this section.

The time it took this researcher to complete the study was very long; the intention was to complete it by 2015, on the tenth anniversary of the WSIS. As a result, Tanzania had already updated its policy in 2016, South Africa had adopted a new policy, Namibia had started its review and in Lesotho there had been agitation for a review. Therefore, the newer policies were not factored into the detailed analysis, although this researcher has reviewed them to determine if they would have a major impact on the findings.

Had time and resources been available, additional participants from the SADC countries could have been interviewed, particularly those in government responsible for the development of policy.

The choice of this researcher's approach to development in Chapter Two could have influenced the capacitating, which is closely related to the capability approach of Sen. Chapter Two was drafted before the data collection and coding of the national ICT policies.

Arguing for mutual reinforcement between national ICT policies and development policies may be an attempt at finding a role for the information society development crusade which may be self-serving, but not true.

The conclusion by this researcher that developing the national ICT policies of the SADC countries was likely to be subject to mimicking of the developed countries and the acceptance of the CaTBIS-4D in terms of which the proposed framework for building information societies in the SADC countries appears to create some logical contradictions. Although mimicking has not been worked into CaTBIS-4D and the framework, this apparent contradiction needs to be resolved.

### 6.8 Suggestions for further research

This research has responded adequately to all the research questions and attained the objectives as set out in Chapter One. However, due to the delimitations, limitations and other observations and conclusions emanating from this research, there are new ideas that could be utilised to propose further research. These suggestions for further research are offered below:

- This research has concluded that even for SADC countries, “the creation and development of information society to some extent depend on a country's level of economic development, which is partly characterised by GDP (gross domestic product)” (Keras & Keras 2008:46). The extent to which the achievement of an information society within country is dependent on its level of development or, at the very least, its GDP level has not been determined. Research to determine this would be valuable for information society studies.
- The CaTBIS-4D that has been generated by this research has been inspired by and is closely related to Sen’s capability approach, especially with the latter’s explanation of development. Research could be conducted to determine if capacitating as an observation in the national ICT policies of SADC countries could be relevant and applicable as an augmentation of the capability approach.
- With the discourse on the 4IR centred at the WEF, where matters are driven more by business and industry than at the UN where they are driven by governments, it is possible that the centre of power with regard to information

society-related issues has shifted away from governments to industry. What would be the implication of that in developing countries?

- In this research, the 4IR has been considered as conceptually like the information society, albeit highlighting the introduction of new technologies such as the IoT, artificial intelligence and robotics. It is recommended that further research be conducted to determine if a theory such as CaTBIS-4D would be applicable within the 4IR.
- At the very core, the information society relates to how members of the society have access to and share information among themselves. In doing so, ICTs become critical in studying the information society. The 4IR, on the other hand, introduces the massive usage of IoT, artificial intelligence and robotics, which minimises the human interaction with data and information. Future research would be required to determine how the technologies associated with 4IR would affect information science-related disciplines.
- Since the framework is broad enough to be utilised for any SADC country to obtain maximum benefit, it is proposed that research should be conducted to determine the specific indicators for SADC countries relevant for the development national ICT policies, in the broader meaning of the concept.
- The research has hinted at the potential relationship between the political stability and the success of implementation of the information society. This is an area that has potential for further additional research.
- One of the limitations mentioned in Section 6.7 relates to the apparent logical contradiction between the conclusion that SADC countries, in developing their national ICT policies, were mimicking; while, at the same time, accepting that the theoretical framework influenced by the very same mimicked policies is viable. Further research to explore and resolve this apparent contradiction is recommended.

### 6.9 Final conclusion

In reporting on the research undertaken with the purpose of proposing a theoretical framework for developing the information society for SADC countries, this thesis provided an overview of and background for the research in Chapter One. That chapter also provided the rationale for the study. Chapter Two presented the key

theoretical perspectives relevant for the research and proposed a conceptual framework that would drive the research process. In Chapter Three, the research methodology was detailed with sufficient information for the reader to establish the amount of trust they may place on the study as well as replicate, should there be a need. The following chapter, Chapter Four, communicated the findings of the study which were arrived at by multiple levels of coding of the national ICT policies of 12 SADC countries as well as open-ended interviews with key informants. An underlying theory that emerged from the national ICT policies was also presented in that chapter. All the findings reported in Chapter Four were interpreted and discussed in Chapter Five, laying the basis for this chapter. This concluding chapter, Chapter Six, brings everything together, furnishing a summary of the key findings and conclusions emanating from the research. Key to this chapter was the presentation of the proposed theoretical framework for building an information society for SADC countries. This chapter also expounded on the implications of the research on theory and practice and disclosed the identified limitations of the research. Furthermore, the chapter proffered suggestions for further research.

The national ICT policies of SADC countries are underpinned by a capacitating theory which holds that building an information society is a process of capacitating the human, infrastructure and financial capabilities within a society. Furthermore, the focus on the capacitating efforts is directed at selected economic sectors and people belonging to certain social categories.

The proposed theoretical framework is simple, yet broad enough for building an information society or any of its emerging iterations such the 4IR for the SADC or other African countries. It focuses on SADC countries because it has been extracted from the national ICT policies of those countries; however, this researcher is of the opinion that most African countries have similar backgrounds and thus the framework could be applicable to them as well.

In summary, this report considers that the information society continues to be relevant for the people in the SADC and other developing countries. The perceived failure of efforts to successfully built an information society is a failure to recognise

the following point. The information society is both a development strategy as well as an outcome of development.

## LIST OF REFERENCES


Adams-means, C.L. 2006. The Knowledge Age: African-Americans in the Information Society. Doctor of Philosophy Thesis, The University of Texas at Austin, Austin.

African National Congress. 2012. Communications Policy Discussion Document: Building an Inclusive Society Through Information and Communication Technology. Available from: http://www.anc.org.za/docs/discus/2012/communication.pdf [Accessed 1 March 2018].

African Union. 2014. *African Union Handbook*. Addis Ababa: African Union Commission and New Zealand Ministry of Foreign Affairs and Trade.

African Union & Economic Commission for Africa. 2005. African Regional Action Plan on the Knowledge Economy: A Framework for Action. Economic Commission for Africa. Available from: http://repository.uneca.org/bitstream/handle/10855/5605/bib. 41841e.pdf?sequence=1 [Accessed 29 June 2014].

Agar, M.H. 1980. *The Professional Stranger: An Informal Introduction to Ethnography*. New York: Academic Press.

Age, L.-J. 2011. Grounded Theory Methodology: Positivism, Hermeneutics, and Pragmatism. *Qualitative Report* 16(6):1599–1615.

Alampay, E.A. 2006. Beyond Access to ICTs : Measuring Capabilities in the Information Society. *International Journal of Education and Development Using Information and Communication Technology* 2(3):4–22.

Alkire, S. 2005. Why the Capability Approach? *Journal of Human Development* 6(1):115–135.

Allan, G. 2003. A Critique of Using Grounded Theory as a Research Method. *Electronic Journal of Business Research Methods* 2(1):1–10.

Anderson, J.E. 2011. *Public Policymaking An Introduction*. 7th ed. Boston, MA: Wadsworth, Cengage Learning.

Annan, K. 1997. Address by Secretary-General Kofi Annan to the World Bank Conference ‘Global Knowledge '97’. *United Nations Meetings Coverage and Press Releases*. Available from: http://www.un.org/press/en/1997/19970623.sgsm6268.html [Accessed 26 January 2016].

Annells, M. 1996. Grounded Theory Method: Philosophical Perspectives, Paradigm of Inquiry, and Postmodernism. *Qualitative Health Research* 6(3):379–393.

Asongu, S.A. & Nwachukwu, J. 2017. Building Knowledge Economies in Africa: A Survey of Policies and Strategies. AGDI Working Paper WP/17/021, Yaoundé. Available from: https://mpra.ub.uni-muenchen.de/81701/ [Accessed 17 October 2017].

Asongu, S.A. & Nwachukwu, J.C. 2018. The Role of Openness in the Effect of ICT on Governance. *Information Technology for Development*. Available from: https://www.tandfonline.com/doi/full/10.1080/02681102.2017.1412292 [Accessed 16 February 2018].

Babbie, E.R. 2014. *The Basics of Social Research*. 6th ed. Belmont, CA: Wadsworth, Cengage Learning.

Bahr, F.-M. 1990. Information in the Economy. In: Berleur J, Clement A, Sizer R, et al. (eds), *The Information Society: Evolving Landscapes*, New York, NY: Springer-Verlag, pp. 259–277.

Bak, N. 2004. *Completing Your Thesis: A Practical Guide*. Pretoria: Van Schaik.

Baker, W.E. & Coleman, K.M. 2004. Racial Segregation and Digital Divide in Detroit Metropolitan Region. In: Castells M (ed.), *The Network Society: A Cross-Cultural Perspective*, Cheltenham: Edward Elgar, pp. 249–268.

Balancing Act - Africa. 2007. Zambia Launches New ICT Policy. *Balancing Act*. Available from: http://www.balancingact-africa.com/news/en/issue-no-349/computing/zambia-launches-new/en [Accessed 27 June 2015].

Barbour, R. 2001. Checklists for Improving Rigour in Qualitative Research: A Case of the Tail Wagging the Dog? *British Medical Journal* 322:1115–1117.

Bauer, J.M. 2010. Learning from Each Other: Promises and Pitfalls of Benchmarking in Communications Policy. *Info* 12(6):8–20.

Berleur, J. & Avgerou, C. 2005. Introduction. In: Berleur J and Avgerou C (eds), *Perspectives and Policies on ICT in Society: An IFIP TC9 (Computers and Society) Handbook*, New York: Springer, pp. 1–11.

Bhabha, H.K. 1984. Of Mimicry and Man: The Ambivalence of Colonial Discourse. *October* 28:125–133.

Bhabha, H.K. 1994. *The Location of Culture*. London: Routledge.

Birks, M. & Mills, J. 2011. Essentials of Grounded Theory. In: *Grounded Theory: A Practical Guide*, pp. 1–14.

Blaikie, N. 2007. *Approaches to Social Enquiry*. 2nd ed. Cambridge: Polity.

Bodenhausen, G. V., Kang, S.K. & Peery, D. 2012. Social Categorization and the Perception of Social Groups. In: *The SAGE Handbook of Social Cognition The SAGE Handbook of Social Cognition*, London: SAGE Publications Ltd, pp. 311–329.

Boeije, H. 2002. A Purposeful Approach to the Constant Comparative Method in the Analysis of Qualitative Interviews. *Quality & Quantity* 36(4):391–409.

Bondarenko, V.M. 2009. Innovations, Information Society and Long-Term Development Strategy of Russia. *Economic Studies* 18(3):39–55.

Boschele, M. 2014. The “Information Society” and the Role of Knowledge in Society. *Online Academic Journal of Information Technology* 5(14):7–13.

Braman, S. 1989. Defining Information. *Telecommunications Policy* 13(3):233–242.

Braman, S. 2007. The Information Society , the Information Economy , and South Africa. *Communicatio* 24(1):37–41.

Bringer, J.D., Johnston, L.H. & Brackenridge, C.H. 2004. Maximizing Transparency in a Doctoral Thesis: The Complexities of Writing About the Use of QSR*NVIVO Within a Grounded Theory Study. *Qualitative Research* 4(2):247–265.

Britz, J.J. & Lor, P. 2010. The Right to Be Information Literate: The Core Foundation of the Knowledge Society. *Innovation* 41:8–24.

Britz, J.J., Lor, P., Coetzee, I. & Bester, B. 2006. Africa as a Knowledge Society: A Reality Check. *The International Information & Library Review* (38):25–40.

Browne, M. 1997a. The Field of Information Policy: 1. Fundamental Concepts. *Journal of Information Science* 23(4):261–275.

Browne, M. 1997b. The Field of Information Policy: 2. Redefining the Boundaries and Methodologies. *Journal of Information Science* 23(5):339–351.

Bryant, A. 2014. The Grounded Theory Method. In: Leavy P (ed.), *The Oxford Handbook of Qualitative Research*, Oxford, UK: Oxford University Press, pp. 116–136.

Bryant, A. & Charmaz, K. 2007. The Coding Process and Its Challenges. In: *The SAGE Handbook of Grounded Theory*, London: Sage, pp. 265–290.

Burian, P.E., Rogerson, L. & Maffei III, F.R. 2010. The Research Roadmap : A Primer to the Approach and Process. *Contemporary Issues in Education Research* 3(8):271–286.

Castells, M. 2000a. Materials for an Exploratory Theory of the Network Society. *British Journal of Sociology* 1(51):5–24.

Castells, M. 2000b. The Global Economy: Structure, Dynamics, and Genesis. 2nd ed. In: *The Rise of the Network Society*, Blackwell Publishers, pp. 101–148.

Castells, M. 2010. *End of Millennium: The Information Age: Economy, Society, and Culture*. Malden, MA: Wiley-Blackwell.

Castells, M. 2011. *The Power of Identity: The Information Age: Economy, Society, and Culture*. Malden, MA: Wiley-Blackwell.

Center for International Development at Harvard University. n.d. Readiness for the Networkded World: A Guide for Developing Countries. Available from: http://www.readinessguide.org [Accessed 20 October 2013].

Chang, H.-J. & Grabel, I. 2014. *Reclaiming Development: An Alternative Economic Policy Manual*. 2nd ed. London: Zed Books.

Charmaz, K. 2001. Qualitative Interviewing and Grounded Theory Analysis. In: Gubrium JF and Holstein JA (eds), *Handbook of Interview Research*, Thousand Oaks, CA: SAGE Publications, Inc., pp. 675–695.

Charmaz, K. 2006. *Constructing Grounded Theory: A Practical Guide Through Qualitative Analysis*. Los Angeles: SAGE.

Charmaz, K. 2012. Lessons for a Lifetime: Learning Grounded Theory from Barney Glaser. In: Martin VB and Glynnild A (eds), *Grounded Theory: The Philosophy, Method, and Work of Barney Glaser*, Boka Raton, Florida: BrownWalker Press, pp. 177–185.

Chaterera, F. 2018. A Framework for Access and Use of Documentary Heritage at the National Archives of Zimbabwe. Doctor of Philosophy and Literature Thesis, University of South Africa, Pretoria.

Checchi, R.M., Po-An Hsieh, J.J. & Straub, D.W. 2003. Public IT Policies in Less Developed Countries: A Critical Assessment of the Literature and a Reference Framework. *Journal of Global Information Technology Management* 6(4):45–64.

Checchi, R.M., Loch, K.D., Straub, D., Sevcik, G. & Meso, P. 2012. National ICT Policies and Development: A Stage Model and Stakeholder Theory Perspective. *Journal of Global Information Management* 20(1):57–79.

Chib, A. 2015. Research on the Impact of the Information Society in the Global South: An Introduction to SIRCA. In: Chib A, May J, and Barrantes R (eds), *Impact of Information Society Research in the Global South*, Heidelberg: Springer Open, pp. 1–17.

Chigona, W., Pollock, M. & Roode, J. 2009. South Africa's Socio-Techno Divide: A Critical Discourse Analysis of Government Speeches. *SACJ* (4).

Chilisa, B. & Kawulich, B.B. 2012. Selecting a Research Approach: Paradigm, Methodology and Methods. In: Wagner C, Kawulich BB, and Garner M (eds), *Doing Social Research: A Global Context*, London: McGraw-Hill Higer Education, pp. 51–61.

Chiumbu, S.H. 2011. Elites and Donors: Interrogating the African ICT Agenda. In: Kondlo K and Ejiogu C (eds), *Africa in Focus: Governance in the 21st Century*, pp. 68–80.

Chu, H. 2015. Research Methods in Library and Information Science: A Content Analysis. *Library & Information Science Research* 37:36–41.

Chung, M. & Kim, J. 2016. The Internet Information and Technology Research Directions Based on the Fourth Industrial Revolution. *KSII Transactions on Internet and Information Systems(TIIS)* 10(3):1311–1320.

Clark, D.A. 2005. The Capability Approach: Its Development, Critiques and Recent Advances. Available from: http://www.gprg.org/pubs/workingpapers/pdfs/gprg-wps-032.pdf [Accessed 9 February 2018].

Cohen, G., Salomon, I. & Nijkamp, P. 2002. Information-Communications Technologies (ICT) and Transport: Does Knowledge Underpin Policy? *Telecommunications Policy* 26(1–2):31–52.

Commonwealth Telecommunications Organisation. 2015. ICT Data for Seychelles. Available from: http://www.cto.int/country-ict-data/africa/ict-data-for-seychelles/ [Accessed 29 April 2015].

Communication Regulators Association of Southern Africa (CRASA). 2015. Who Are Our Members. Available from: http://www.crasa.org/crasa-member-list/ [Accessed 29 April 2015].

Craven, P. 2017. The 'Fourth Industrial Revolution' - or Socialist Revolution? *Daily Maverick*. Available from: https://www.dailymaverick.co.za/opinionista/2017-01-05-the-fourth-industrial-revolution-or-socialist-revolution/#.WSLbPzG1tjo [Accessed 22 May 2017].

Crawford, S. 1983. The Origin and Development of a Concept: The Information Society. *Bulletin of the Medical Library Association* 71(4):380–385.

Creswell, J.W. 2009. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. 3rd ed. Thousand Oaks, CA: Sage Publications, Inc.

Creswell, J.W. 2014. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. 4th ed. Thousand Oaks, CA: Sage.

De Coning, C. & Wissink, H. 2011. Nature, Role and History of Public Policy. 3rd ed. In: Cloete F and De Coning C (eds), *Improving Public Policy*, Pretoria: Van Schaik Publishers, pp. 3–31.

Degele, N. 1997. Knowledge in the Information Society. *World Futures: The Journal of General Evolution* 50:743–755.

Department of Communications (South Africa). 2014. The National Integrated ICT Policy Green Paper. Pretoria: Department of Communications (South Africa).

Department of Telecommunications and Postal Services (South Africa). 2016. National Integrated ICT Policy White Paper. *Government Gazette* 1212(40325):4–176.

Dery, D. 1998. Policy by the Way: When Policy Is Incidental to Making Other Policies. *Journal of Public Policy* 18(2):163–176.

Díaz Andrade, A. 2009. Interpretive Research Aiming at Theory Building : Adopting and Adapting the Case Study Design. *The Qualitative Report* 14(1):42–60.

Diga, K. 2013. Access and Usage of ICTs by the Poor (Part I). In: Elder L, Fuchs R, Petrazzini B, et al. (eds), *Connecting ICTs to Development: The IDRC Experience*, London and Ottawa: Anthem Press and International Development Research Centre, pp. 117–135.

Diga, K., Nwaiwu, F. & Plantinga, P. 2013. ICT Policy and Poverty Reduction in Africa. *Info* 15(5):114–127.

Dijk, J. Van & Hacker, K. 2003. The Digital Divide as a Complex and Dynamic Phenomenon. *The Information Society* 19:315–326.

Dragomirescu, H. & Filip, F.G. 2013. Steering the Information Society Development as a Vision-Based, Multi-Stakeholder Process: A Point of View. *Computer Science Journal of Moldova* 21(3):299–308.

Dragomirescu, H. & Tighineanu, I. 2012. Risks Affecting the Development of the Information Society in the Republic of Moldova. In: *Proceedings of the Fifth Balkan Conference in Informatics*, ACM, pp. 82–87.

Drori, G.S. 2007. Information Society as a Global Policy Agenda: What Does It Tell Us About the Age of Globalization? *International Journal of Comparative Sociology* 48(4):297–316.

Duff, A.S. 2004. The Past , Present , and Future of Information Policy. *Information, Communication & Society* 7(1):69–87.

Duff, A.S., Craig, D. & McNeill, D.A. 1996. A Note on the Origins of the 'Information Society'. *Journal of Information Science* 22(2):117–122.

Durrheim, K. 2006. Research Design. 2nd ed. In: Terre Blanche M, Durrheim K, and Painter D (eds), *Research in Practice: Applied Methods for the Social Sciences*, Cape Town: University of Cape Town Press, pp. 33–59.

Eaves, Y. 2001. A Synthesis Technique for Grounded Theory Data Analysis. *Journal of Advanced Nursing* 35(February):654–663.

Eisenhart, M. 1991. Conceptual Frameworks for Research Circa 1991: Ideas from a Cultural Anthropologist; Implications for Mathematics Education Research. Underhill RG (ed.), *Proceedings of the 13th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, Blacksburg, Virginia. Available from: http://nepc.colorado.edu/publication/conceptual-frameworks-research-circa-1991-ideas-a-cultural-anthropologist-implications-m [Accessed 26 September 2017].

Elo, S. & Kyngäs, H. 2008. The Qualitative Content Analysis Process. *Journal of Advanced Nursing* 62(1):107–115.

Elo, S., Kääriäinen, M., Kanste, O., Polkki, T., Utriainen, K. & Kyngas, H. 2014. Qualitative Content Analysis: A Focus on Trustworthiness. *SAGE Open* 4(1):1–10.

Epstein, D., Nisbet, E.C. & Gillespie, T. 2011. Who's Responsible for the Digital Divide? Public Perceptions and Policy Implications. *The Information Society* 27(2):92–104.

Feather, J.P. 2013. *Information Society: A Study of Continuity and Change*. 6th ed. London: Facet Publications.

Feilzer, M. 2010. Doing Mixed Methods Research Pragmatically: Implications for the Rediscovery of Pragmatism as a Research Paradigm. *Journal of Mixed Methods Research* 4(1):6–16.

Finfgeld-Connett, D. 2013. Use of Content Analysis to Conduct Knowledge-Building and Theory-Generating Qualitative Systematic Reviews. *Qualitative Research* 14(3):341–352.

Flor, A. 2015. Constructing Theories of Change for Information Society Impact Research. In: Chib A, May J, and Barrantes R (eds), *Impact of Information*

*Society Research in the Global South*, Singapore: Springer Singapore, pp. 45–62.

Fong, M.W.L. 2009. Digital Divide: The Case of Developing Countries. *Issues in Informing Science and Information Technology* 6:471–478.

Foresight Sector Working Group on ICT. 1999. Foresight ICT Report. Available from: http://www.dst.gov.za/images/pdfs/FORESIGHT ICT REPORT.pdf [Accessed 20 October 2013].

Fuchs, C. 2008. *Internet and Society: Social Theory in the Information Age*. New York: Routledge.

Fuchs, C. 2010. Theoretical Foundations of Defining the Participatory, Co-Operative, Sustainable Information Society. *Information, Communication & Society* 13(1):23–47.

Fuchs, C. & Horak, E. 2008. Africa and the Digital Divide. *Telematics and Informatics* 25(2):99–116.

Garnham, N. 2000. 'Information Society' as Theory or Ideology: A Critical Perspective in Technology, Education and Employment in the Information Age. *Information, Communication & Society* 3(2):139–152.

Gault, F. & McDaniel, S.A. 2002. Challenges to Capturing Information about the Information Society. *First Monday*, Ghosh, Rishab Aiyer.

Gibbs, G.R. 2010. Grounded Theory - Core Elements. Part 2. Available from: https://www.youtube.com/watch?v=4SZDTp3_New [Accessed 23 August 2015].

Giske, T. & Artinian, B. 2007. A Personal Experience of Working with Classical Grounded Theory: From Beginner to Experienced Grounded Theorist. *International Journal of Qualitative Methods*, International Institute for Qualitative Methodology 6(4):67–80.

Godin, B. 2015. *Models of Innvoation: Why Models of Innovation Are Models, or What Work Is Being Done in Calling Them Models?* Project on the Intellectual History of Innovation, Montréal.

Golafshani, N. 2003. Understanding Reliability and Validity in Qualitative Research. *The Qualitative Report* 8(4):597–606.

Gorman, G.E., Clayton, P.R., Shep, S.J. & Clayton, A. 2005. *Qualitative Research for the Information Professional: A Practical Handbook*. London: Facet Publishing.

Government of Australia. 1991. *Australia as an Information Society: Grasping New Paradigms*. Canberra.

Government of Botswana. 2007. National Information and Communications Technology Policy. Available from: http://www.bits.org.bw/wp-content/uploads/2016/05/Final-Revision-MCST-Maitlamo-Policy.pdf [Accessed 9 March 2015].

Government of Seychelles. 2007. *National ITC Policy for Seychelles*.

Gregor, S. 2002. A Theory of Theories in Information Systems. In: Gregor S and Hart D (eds), *Information Systems Foundations: Building the Theoretical Base*, Canberra: Australian National University, pp. 1–20.

Gregor, S. 2006. The Nature of Theory in Information Systems. *MIS Quarterly* 30(3):611–642.

Grewal, B.S. 2008. Neoliberalism and Discourse: Case Studies of Knowledge Policies in the Asia-Pacific. Doctor of Philosophy Thesis, Auckland University of Technology, Auckland.

Guba, E.G. & Lincoln, Y.S. 1994. Competing Paradigms in Qualitative Research. In: Denzin NK and Lincoln YS (eds), *Handbook of Qualitative Research*, Thousand Oaks, CA: Sage, pp. 105–117.

Guetzkow, J., Lamont, M. & Mallard, G. 2004. What Is Originality in the Humanities and the Social Sciences? *American Sociological Review* 69(2):190–212.

Gunkel, D. 2003. Second Thoughts: Toward a Critique of the Digital Divide. *New Media & Society* 5(4):499–522.

Gupta, A. 2013. The Role of “Mimicry” in Colonial and Postcolonial Discourse with Special Reference to Homi Bhabha’s Of Mimicry and Man: The Ambivalence of

Colonial Discourse. *The Indian Review of World Literature in English*. Available from: http://worldlitonline.net/Archana-Gupta.pdf [Accessed 22 January 2018].

Hanafizadeh, P., Hanafizadeh, M.R. & Khodabakhshi, M. 2009. Taxonomy of E-Readiness Assessment Measures. *International Journal of Information Management* 29(3):189–195.

Hanson, W., Creswell, J.W., Plano Clark, I., Petska, K.S. & Creswell, J.D. 2005. Mixed Methods Research Designs in Counseling Psychology. *Journal of Counseling Psychology* 52(2):224–235.

Harcourt, A. 2013. Participatory Gains and Policy Effectiveness: The Open Method of Co-Ordination Information Society. *Journal of Common Market Studies* 51(4):667–683.

Hargittai, E. 2003. The Digital Divide and What to Do About It. In: Jones DC (ed.), *New Economy Handbook*, London: Academic Press, pp. 821–839.

Hase, S. & Ng, K. 2008. Grounded Suggestions for Doing a Grounded Theory Business Research. *The Electronic Journal of Business Research Methods* 6(2):155–170.

Heeks, R. 2010. Do Information and Communication Technologies (ICTs) Contribute to Development? *Journal of International Development* 22(5):625–640.

Heeks, R., Gao, P. & Ospina, A. 2010. Delivering Coherent ICT Policies in Developing Countries. *E-Development Briefing*, e-Development Briefing, Manchester. Available from: http://www.sed.manchester.ac.uk/idpm/research/publications/wp/di/#sp [Accessed 16 March 2014].

Henning, E., Van Rensburg, W. & Smit, B. 2004. *Finding Your Way in Qualitative Research*. Pretoria: Van Schaik Publishers.

Henry, G.T. 2008. Practical Sampling. In: Bickman L and Rog DJ (eds), *The SAGE Handbook of Applied Social Research Methods*, Thousand Oaks: Sage Publications, Inc., pp. 77–106.

Herbert, R.D. & Higgs, J. 2004. Complementary Research Paradigms. *The Australian Journal of Physiotherapy*, Australian Physiotherapy Association 50(2):63–64.

Hilbert, M., Lopez, P. & Vasquez, C. 2010. Information Societies or " ICT Equipment Societies ?" Measuring the Digital Information-Processing Capacity of a Society in Bits and Bytes. *The Information Society* 26(3):157–178.

Hill, M.W. 1989. *National Information Policies: A Review of the Situation in Seventeen Industrialised Countries, with Particular Reference to Scientific and Technical Information*. FID Occassional Paper Series, The Hague.

Holmner, M.A. 2008. A Critical Analysis of Information and Knowledge Societies with Specific Reference to the Interaction between Local and Global Knowledge Systems. Doctor of Philosophy Thesis, University of Pretoria, Pretoria.

Holton, J. 2010. The Coding Process and Its Challenges. *The Grounded Theory Review* 9(1):21–40.

Hsieh, H.-F. & Shannon, S.E. 2005. Three Approaches to Qualitative Content Analysis. *Qualitative Health Research* 15(9):1277–1288.

International Telecommunication Union. 2010a. *National E-Strategies for Development: Global Status and Perspectives 2010*. Geneva: International Telecommunication Union.

International Telecommunication Union. 2010b. *World Telecommunication / ICT Development Report 2010: Monitoring the WSIS Targets A Mid-Term Review*. Geneva: International Telecommunication Union.

International Telecommunication Union. 2014a. *Report on the WSIS Stocktaking 2014*. Geneva: International Telecommunication Union.

International Telecommunication Union. 2014b. *The Final WSIS Targets Review*. Geneva: International Telecommunication Union.

International Telecommunication Union. 2015. *WSIS Stocktaking Report 2015*. Geneva: International Telecommunication Union.

International Telecommunication Union. 2016a. Facts and Figures 2016. Available from: https://www.itu.int/en/ITU-

D/Statistics/Documents/facts/ICTFactsFigures2016.pdf [Accessed 27 October 2017].

International Telecommunication Union. 2016b. *Measuring the Information Society Report 2016*. *International Telecommunication Union*, Geneva: International Telecommunication Union.

International Telecommunication Union. 2018. *Report on the WSIS Stocktaking 2018*. Geneva: International Telecommunication Union.

Jabareen, Y. 2009. Building a Conceptual Framework: Philosophy, Definitions, and Procedure. *International Journal of Qualitative Methods*. Available from: http://ejournals.library.ualberta.ca/index.php/IJQM/article/viewArticle/6118 [Accessed 31 May 2014].

James, J. 2012. Which Developing Countries Have Done the Most to Close the Digital Divide? *Telematics and Informatics*, Elsevier Ltd 29(1):2–10.

JanMohamed, A.R. 1985. The Economy of Manichean Allegory: The Function of Racial Difference in Colonialist Literature. *Critical Inquiry* 12(1):59–87.

Jiyane, G.V., Majanja, M.K., Mostert, B.J. & Ocholla, D.N. 2013. South Africa as an Information and Knowledge Society: Benefit to the Informal Sector Women Entrepreneurs. *South African Journal of Libraries and Information Science* 79(1):1–12.

Karvalics, L.Z. 2008. Information Society – What Is It Exactly? (The Meaning, History and Conceptual Framework of an Expression). In: Pintér R (ed.), *Information Society: From Theory to Political Practice, Coursebook*, Budapest: NET-IS (Network for Teaching Information Society), pp. 29–46.

Karvonen, E. 2001. *Informational Societies: Understanding the Third Industrial Revolution*. Karvonen E (ed.), Tampere: Tampere University Press.

Kasvio, A. 2001. The Emergence of ‘Information Society’as a Major Social Scientific Research Programme. In: Karvonen E (ed.), *Informational Societies: Understanding the Third Industrial Revolution*, Tampere: Tampere University Press, pp. 19–47.

Keenan, A. 2010. The Discourse of the Information Age. Master of Arts Dissertation, University of Alberta, Edmonton.

Kelly, K. 2006. Calling It a Day: Reaching Conclusions in Qualitative Research. In: Terre Blanche MJ, Durrheim K, and Painter D (eds), *Research in Practice: Applied Methods for the Social Sciences*, Cape Town: University of Cape Town Press, pp. 371–387.

Kenessey, Z. 1987. The Primary, Secondary, Tertiary and Quaternary Sectors of the Economy. *Review of Income and Wealth* 33(4):359–385.

Kenny, M. & Fourie, R. 2014. Tracing the History of Grounded Theory Methodology: From Formation to Fragmentation. *The Qualitative Report* 19(103):1–9.

Keras, A. & Keras, V. 2008. Development of Information Society in the Context of Growing GDP. *European Integration Studies* 2:46–52.

Khizbullin, F.F., Sologub, T.G., Bulganina, S. V., Lebedeva, T.E., Vladimir, S.N. & Prokhorova, V. V. 2017. The Direction of Transformation of Information and Communication Technology (ICT) at the Present Stage of Development into an Electronic and Information Society. *Pertanika Journal of Social Sciences & Humanities* 25(S):45–58.

Ki-moon, B. 2014. *Information and Communications Technologies for Inclusive Social and Economic Development*. Geneva: United Nations.

Kim, S.-J. & Jeong, D.Y. 2006. An Analysis of the Development and Use of Theory in Library and Information Science Research Articles. *Library & Information Science Research* 28(4):548–562.

Kingdom of Swaziland. 2006. National Information and Communication Infrastructure (NICI) Policy. Kingdom of Swaziland. Available from: http://www.sptc.co.sz/regulator/SwazilandPolicyRev1-June2006.pdf [Accessed 4 March 2015].

Kleine, D. & Unwin, T. 2009. Technological Revolution, Evolution and New Dependencies: What's New about ICT4D? *Third World Quarterly* 30(5):1045–1067.

Krippendorff, K. 2013. *Content Analysis: An Introduction to Its Methodology*. 3rd ed. Los Angeles: Sage Publications, Inc.

Kurbalija, J. 2012. *An Introduction to Internet Governance*. 5th ed. Msida: DiploFoundation.

Kyem, P.A.K. 2012. Is ICT the Panacea to Sub-Saharan Africa's Development Problems? Rethinking Africa's Contentious Engagement with the Global Information Society. *Progress in Development Studies* 12(2–3):231–244.

Labelle, R. 2005. *ICT Policy Formulation and E-Strategy Development*. Bangkok: United Nations Development Programme-Asia Pacific Development Information Programme.

Lacy, S., Watson, B.R., Riffe, D. & Lovejoy, J. 2015. Issues and Best Practices in Content Analysis. *Journalism & Mass Communication Quarterly* 92(4):791–811.

Le Roux, C.S. 2015. Ethics and Research. In: Mathipa ER and Gumbo MT (eds), *Addressing Research Challenges: Making Headway for Developing Researchers*, Noordwyk: Mosala-Masedi, pp. 85–109.

Lee, K. 1997. Is the Glass Half-Empty or Half-Full ? Rethinking the Problems of Postcolonial Revisionism. *Cultural Critique* 36:89–117.

Lee, S.-O., Hong, A. & Hwang, J. 2017. ICT Diffusion as a Determinant of Human Progress. *Information Technology for Development*, Taylor & Francis 23(4):687–705.

Leedy, P.D. and & Ormrod, J.E. 2015. *Practical Research: Planning and Design*. Eleventh e. Boston: Pearson.

Lester, F.K. 2005. On the Theoretical, Conceptual, and Philosophical Foundations for Research in Mathematics Education. *ZDM* 37(56):457–467.

Lewis, C. & Abrahams, L. 2013. SADC Communications Environment: An Assessment of Communications Policies, Laws and Regulations in SADC Member States. Johannesburg. Available from: http://www.wits.ac.za/22485/# [Accessed 30 April 2015].

Lind, D.A., Marchal, W.G. & Wathen, S.A. 2008. *Statistical Techniques in Business & Economics*. Thirteenth. New York, NY: McGraw-Hill/Irwin.

Long, K.J. 2004. Unit of Analysis. Lewis-Beck MS, Bryman A, and Liao TF (eds), *The SAGE Encyclopedia of Social Science Research Methods*, Thousand Oaks, CA: Sage Publications, Inc.

Lyon, D. 1986. From ‘Post-Industrialism’ to ‘Information Society’: A New Social Transformation. *Sociology* 20(4):577–588.

Mackenzie, N. & Knipe, S. 2006. Research Dilemmas: Paradigms, Methods and Methodology. *Issues in Educational Research* 16(2).

Makochekanwa, A. 2013. An Analysis of Tourism Contribution to Economic Growth in SADC Countries. *Botswana Journal of Economics* 11(15):42–56.

Makoza, F. 2017. Power Relations among Stakeholders in the Implementation of National ICT Policy: Case of Malawi. Doctor of Philosophy Thesis, University of Cape Town, Cape Town.

Makoza, F. & Chigona, W. 2013. Review of Challenges in National ICT Policy Process for African Countries. In: *In Proceeding of the ITU Kaleidoscope Academic Conference*, Kyoto, Japan: International Telecommunication Union, pp. 245–251.

Maldonado-Torres, N. 2007. On the Coloniality of Being. *Cultural Studies* 21(2):240–270.

Marcelle, G.M. 2000. Getting Gender Into African ICT Policy: A Strategic View. In: Rathgeber EM and Adera EO (eds), *Gender and the Information Revolution in Africa*, Ottawa: International Development Research Centre, pp. 35–83.

Maree, K. & Van der Westhuizen, C. 2009. *Head Start in Designing Research Proposals in the Social Sciences*. Cape Town: Juta.

Maxwell, J.A. 2013. Conceptual Framework: What Do You Think Is Going On? 3rd ed. In: Bickman L and Rog DJ (eds), *Qualitative Research Design: An Interactive Approach*, Thousand Oaks, CA: Sage Publications, Inc., pp. 39–72.

May, C. 2002. *The Information Society: A Sceptical View*. Cambridge: Polity.

Melhem, S., Morrell, C. & Tandon, N. 2009. *Information and Communication Technologies for Women’s Socioeconomic Empowerment*. Washington, D.C.: The World Bank.

Meso, P., Musa, P., Straub, D. & Mbarika, V. 2009. Information Infrastructure, Governance, and Socio-Economic Development in Developing Countries. *European Journal of Information Systems* 18(1):52–65.

Meta, J. 2007. NEPAD E-Schools Initiative – An Example of an Innovative Partnership. In: Cunningham P and Cunningham M (eds), *IST-Africa 2007 Conference Proceedings*, Maputo: International Information Management Corporation, pp. 1–8.

Meyer, J.W., Boli, J., Thomas, G.M. & Ramirez, F.O. 1997. World Society and the Nation-State. *American Journal of Sociology* 103(1):144–181.

Mills, J., Bonner, A. & Francis, K. 2006. The Development of Constructivist Grounded Theory. *International Journal of Qualitative Methods* 5(1):25–35.

Ministry of Communications and Transport (Republic of Zambia). 2006. National Information & Communication Technology Policy. Available from: http://unpan1.un.org/intradoc/groups/public/documents/unpan/unpan032690.pdf [Accessed 3 March 2015].

Ministry of Communications and Transport (The United Republic of Tanzania). 2003. National Information and Communications Technologies Policy. Available from: http://unpan1.un.org/intradoc/groups/public/documents/unpan/unpan033693.pdf [Accessed 4 March 2015].

Ministry of Communications Science and Technology (Kingdom of Lesotho). 2005. ICT Policy for Lesotho. Available from: http://unpan1.un.org/intradoc/groups/public/documents/cpsi/unpan033873.pdf [Accessed 4 March 2015].

Ministry of Information Technology and Telecommunications (Republic of Mauritius). 2007. *Mauritius National ICT Policy 2007-11*.

Moodley, S. 2004. The `information Society': A Critical Assessment. *Mousaion* 22(2):230–254.

Morgan, D.L. 2007. Paradigms Lost and Pragmatism Regained: Methodological Implications of Combining Qualitative and Quantitative Methods. *Journal of Mixed Methods Research* 1(1):48–76.

Mothobi, O., Chair, C. & Rademan, B. 2017. SADC Not Bridging Digital Divide. *Research ICT Africa Policy Brief 6*. Available from:

http://researchictafrica.net/polbrf/Research_ICT_Africa_Policy_Briefs/2017_Policy_Brief_6_SADC.pdf [Accessed 5 November 2017].

Mozambique (Republic of). 2000. Information and Communication Technology Policy. Government of Mozambique. Available from: http://www.ist-africa.org/home/files/Mozambique_ICTPolicy_2000.pdf [Accessed 4 March 2015].

Mpande, S. & Kannan, A. 2014. Seychelles 2014. *African Economic Outlook*. Available from: http://www.africaneconomicoutlook.org/fileadmin/uploads/aeo/2014/PDF/CN_Long_EN/Seychelles_EN.pdf [Accessed 14 February 2016].

Mutula, S.M. & van Brakel, P. 2006. An Evaluation of E-Readiness Assessment Tools with Respect to Information Access: Towards an Integrated Information Rich Tool. *International Journal of Information Management* 26(3):212–223.

Namibia Ministry of ICT. 2008. *Information Technology Policy for the Republic of Namibia*. Namibia Ministry of ICT.

Nassimbeni, M. 1998. The Information Society in South Africa: From Global Origins to Local Vision. *South African Journal of Library and Information Science* 66(4):154–160.

Nath, H. 2017. The Information Society. *Space and Culture, India* 4(3):19–28.

Nathaniel, A.K. 2012. An Integrated Philosophical Framework That Fits Grounded Theory. In: Martin VB and Glynnild A (eds), *Grounded Theory: The Philosophy, Method, and Work of Barney Glaser*, Boka Raton, Florida: BrownWalker Press, pp. 187–200.

National Research Foundation. 2014. Nexus Database System : Home Page. Available from: http://nexus.nrf.ac.za/ [Accessed 29 June 2014].

Ndlovu-Gatsheni, S.J. 2013. Why Decoloniality In The 21st Century? *The Thinker*.

Ndlovu-Gatsheni, S.J. 2015. Decoloniality as the Future of Africa. *History Compass* 13(10):485–496.

Neuendorf, K.A. 2002. *The Content Analysis Guidebook*. Thousand Oaks, CA: SAGE Publications.

Neuman, W.L. 2014. *Basics of Social Research: Qualitative and Quantitative Approaches*. 3rd ed. Essex: Pearson Education.

Ngoepe, M.S. 2012. Fostering a Framework to Embed the Records Management Function Into the Auditing Process in the South African Public Sector. Doctor of Literature and Philosophy Thesis, University of South Africa, Pretoria.

Ngulube, P. 2005. Research Procedures Used by Master of Information Studies Students at the University of Natal in the Period 1982 – 2002 with Special Reference to Their Sampling Techniques and Survey Response Rates : A Methodological Discourse. *The International Information & Library Review* 37:127–143.

Ngulube, P. 2015a. Qualitative Data Analysis and Interpretation: Systematic Search for Meaning. In: Gumbo MT and Mathipa ER (eds), *Adressing Research Challenges: Making Headway for Developing Researchers*, Noordwyk: Mosala-Masedi, pp. 132–157.

Ngulube, P. 2015b. Trends in Research Methodological Procedures. *African Journal of Library Archives and Information Science* 25(2):125–143.

Ngulube, P. 2018. Overcoming the Difficulties Associated with Using Conceptual and Theoretical Frameworks in Heritage Studies. In: Ngulube P (ed.), *Handbook of Research on Heritage Management*, Hershey, PA: IGI Global, pp. 1–23.

Ngulube, P., Mathipa, E.R. & Gumbo, M.T. 2015. Theoretical and Conceptual Frameworks in the Social and Management Sciences. In: *Adressing Research Challenges: Making Headway for Developing Researchers*, Noordwyk: Mosala-Masedi, pp. 43–66.

Nulens, G. 2003. The Digital Divide and Development Communication Theory. *Communicatio* 29(1–2):68–78.

O'Conner, P.T. & Kellerman, S. 2012. "Informational" vs. "Informative". *The Grammarphobia Blog*. Available from: http://www.grammarphobia.com/blog/2012/06/informational-informative.html [Accessed 8 December 2015].

Ocholla, D.N. 2014. Are African Libraries Active Participants in Today's Knowledge and Information Society? *South African Journal of Libraries and Information Science* 75(1):20–27.

Ocholla, D.N. & Le Roux, J. 2011. Conceptions and Misconceptions of Theoretical Frameworks in Library and Information Science Research: A Case Study of Selected Theses and Dissertations from Eastern and Southern African Universities. *Mousaion* 29(2):61–74.

Odhiambo, M.O. 2008. Need for National ICT Policy. *French South African Technical Institute in Electronics (FSATIE), TUT (South Africa).* Available from: http://uir.unisa.ac.za/handle/10500/3301 [Accessed 22 August 2015].

OECD. 2009. Guide to Measuring the Information Society. Available from: http://ictlogy.net/bibliography/reports/projects.php?idp=1355 [Accessed 16 March 2014].

Ojo, T. 2016. Global Agenda and ICT4D in Africa: Constraints of Localizing 'Universal Norm'. *Telecommunications Policy*, Elsevier 40:704–713.

Olatokun, W.M. 2008. Gender and National ICT Policy in Africa: Issues, Strategies, and Policy Options. *Information Development* 24(1):53–65.

Organisation for Economic Co-operation and Development. 2001. Understanding the Digital Divide. Paris: Organisation for Economic Co-Operation And Development. Available from: https://www.oecd.org/sti/1888451.pdf [Accessed 20 October 2013].

Page, E.C. 2008. The Origins of Policy. In: Moran M, Rein M, and Goodin RE (eds), *The Oxford Handbook of Public Policy*, Oxford, UK: Oxford University Press, pp. 207–227.

Parsons, J.A. 2008. Key Informant. In: Lavrakas PJ (ed.), *Encyclopedia of Survey Research Methods*, Thousand Oaks: Sage Publications, Inc., p. 408.

Pereira Neto, C.M. 2006. Development Theory and Foundations of Universal Access Policies. *I/S: A Journal of Law and Policy for the Information Society* 2(2):365–408.

Pfeiffer, S. 2017. The Vision of "Industrie 4.0" in the Making—a Case of Future Told, Tamed, and Traded. *NanoEthics*, Springer Netherlands 11(1):107–121.

Pheko, B.C. 2012. Reaching the Hard to Reach: Information Technology Reached Rural Kaudwane in Botswana. In: Lekoko RN and Semali LM (eds), *Cases on Developing Countries and ICT Integration: Rural Community Development*, Hershey PA: IGI Global, pp. 42–52.

Piggin, R. 2016. Risk in the Fourth Industrial Revolution. *ITNOW*, Oxford University Press 58(3):34–35.

Pintér, R. 2008. Towards Getting to Know Information Society. In: Pintér R (ed.), *Information Society: From Theory to Political Practice, Coursebook*, Budapest: NET-IS (Network for Teaching Information Society), pp. 11–28.

Poel, M., Kool, L. & van der Giessen, A. 2010. How to Decide on the Priorities and Coordination of Information Society Policy? Analytical Framework and Three Case Studies. Constantelou A (ed.), *Info* 12(6):21–39.

Porat, M.U. 1977a. The Information Economy: Definition and Measurement. Washington, D.C. Available from: http://eric.ed.gov/?id=ED142205 [Accessed 8 December 2015].

Porat, M.U. 1977b. The Information Economy: Sources and Methods for Measuring the Primary Information Sector (Detailed Industry Reports). Available from: http://eric.ed.gov/?id=ED142206 [Accessed 8 December 2015].

Porat, M.U. 1978. Global Implications of the Information Society. *Journal of Communication* 28(1):70–80.

Poveda, S. & Roberts, T. 2018. Critical Agency and Development: Applying Freire and Sen to ICT4D in Zambia and Brazil. *Information Technology for Development* 24(1):119–137.

Prisecaru, P. 2016. Challenges of The Fourth Industrial Revolution. *Knowledge Horizons - Economics* 8(1):57–62.

Puddephatt, A.J. 2007. Special: An Interview with Kathy Charmaz: On Constructing Grounded Theroy. *Qualitative Sociology Review* II(3):5–20.

Quijano, A. 2007. Coloniality and Modernity/Rationality. *Cultural Studies* 21(2–3):168–178.

Rahmandoust, M., Norouzi, M., Ahmadian, S., Rast, S., Farhadi, E. & Shah, I.M. 2011. Introducing a Systematic Method for Designing Literature Map in Interdisciplinary Researches: A Case Study on Entrepreneurs ' Migration. *European Journal of Scientific Research* 56(1):6–11.

Ranchod, Y. 2008. 'Caught in the Web: An Analysis of South Africa's Response to the Emerging Global Informaion Policy Regime'. University of Cape Town.

Rao, M. 2003. *The Nature of the Information Society : A Developing World Perspective*. Goodrick J (ed.), Visions of the Information Society, Geneva: International Telecommunication Union.

Rapley, J. 2007. The Progress of Development. 3rd ed. In: *Understanding Development: Theory and Practice in the Third World*, Boulder, CO: Lynne Rienner Publishers, pp. 1–12.

Recker, J. 2013. *Scientific Research in Information Systems*. Heidelberg: Springer.

Regan, G. n.d. *The Guinness Book of Military Blunders*. Guinness Publishing.

Remenyi, D. 2014. *Grounded Theory: A Reader for Researchers, Students, Faculty and Others*. 2nd ed. Reading: Academic Conferences and Publishing International.

Republic of Malawi. 2013. National ICT Policy. Available from: http://www.malawi.gov.mw/Publications%5CMalawi ICT Policy Final.pdf [Accessed 4 March 2015].

Republic of South Africa. 2007. National Information Society and Development (ISAD) Plan. Available from: http://www.dtps.gov.za/documents-publications/isad.html [Accessed 3 March 2015].

Rist, G. 2002. *The History of Development: From Western Origins to Global Faith*. 2nd ed. London: Zed Books.

Rutsito, T. 2015. New ICT Policy to Be Presented to Cabinet. *The Herald*, Harare. Available from: http://www.herald.co.zw/new-ict-policy-to-be-presented-to-cabinet/ [Accessed 29 May 2016].

SADC. 2001. *SADC Declaration on Information and Communications Technology (ICT)*. Blantyre.

SADC. 2012. Regional Infrastructure Development Master Plan: Information and Communication Technologies (ICT) Sector Plan. Available from: http://www.sadc.int/files/9413/5293/3532/Regional_Infrastructure_Development_Master_Plan_ICT_Sector_Plan.pdf [Accessed 5 November 2017].

Saldaña, J. 2013. *The Coding Manual for Qualitative Researchers*. 2nd ed. Los Angeles: SAGE Publications Ltd.

Sbaraini, A., Carter, S.M., Evans, R. & Blinkhorn, A. 2011. How to Do a Grounded Theory Study: A Worked Example of a Study of Dental Practices. *BMC Medical Research Methodology*. Available from: http://www.biomedcentral.com/content/pdf/1471-2288-11-128.pdfCachedSimilarby [Accessed 30 May 2016].

Schwandt, T.A., Lincoln, Y.S. & Guba, E.G. 2007. Judging Interpretations: But Is It Rigorous? Trustworthiness and Authenticity in Naturalistic Evaluation. *New Directions for Evaluation* 2007(114):11–25.

Sciadas, G. 2005. Infostates across Countries and over Time: Conceptualization, Modeling, and Measurements of the Digital Divide. *Information Technology for Development* 11(3):299–304.

Scotland, J. 2012. Exploring the Philosophical Underpinnings of Research: Relating Ontology and Epistemology to the Methodology and Methods of the Scientific, Interpretive, and Critical Research Paradigms. *English Language Teaching* 5(9):9–16.

Scriven, M. 1986. Evaluation as Paradigm for Educational Research. In: House ER (ed.), *New Directions in Educational Evaluation*, London: The Falmer Press, pp. 53–67.

Seale, C. 1999. Quality in Qualitative Research. *Qualitative Inquiry* 5(4):465–478.

Sehlapelo, M.C.A.M. 2010. The Challenges of Building an Information Society in the Limpopo Province, South Africa. Master of Information Studies Dissertation, University of KwaZulu-Natal, Pietermaritzburg.

Selstad, T. 1990. The Rise of the Quaternary Sector. The Regional Dimension of Knowledge-Based Services in Norway, 1970–1985. *Norsk Geografisk Tidsskrift - Norwegian Journal of Geography*, Taylor & Francis Group 44(1):21–37.

Sen, A. 1983. Poor, Relatively Speaking. *Oxford Economic Papers* 35(2):153–169.

Sen, A. 1988. The Concept of Development. In: Chenery H and Srinivasan TN (eds), *Handbook of Development Economics, Volume I*, Amsterdam: Elsevier Science Publishers B.V., pp. 9–28.

Sen, A. 1994. Well-Being, Capability and Public Policy. *Giornale Degli Economisti e Annali Di Economia* 53(7/9):333–347.

Sen, A. 1999. *Development as Freedom*. Oxford: Oxford University Press.

Sen, A. 2004. Dialogue Capabilities, Lists, and Public Reason: Continuing the Conversation. *Feminist Economics* 10(3):77–80.

Sharma, R., Fantin, A.R., Prabhu, N., Guan, C. & Dattakumar, A. 2014. Digital Literacy and Knowledge Societies: A Grounded Theory Investigation of Sustainable Development. *Telecommunications Policy*, Elsevier 40(7):628–643.

Shields, P.M. & Rangarajan, N. 2013. *A Playbook for Research Methods: Integrating Conceptual Frameworks and Project Management*. Stillwater, OK: New Forums Press.

Shreiber, V. & Ishmaev, G. 2010. The Place of Information and Knowledge in the Structure of Labor. *The 4th International Conference on the Foundations of Information Science*, Beijing. Available from: http://www.sciforum.net/conference/fis2010/paper/353/download/original.pdf [Accessed 12 December 2015].

Sinclair, M. 2007. A Guide to Understanding Theoretical and Conceptual Frameworks. *Evidence Based Midwifery* 5(2):39.

Singh, H., Díaz Andrade, A. & Techatassanasoontorn, A.A. 2018. The Practice of ICT-Enabled Development. *Information Technology for Development*, Taylor & Francis 24(1):37–62.

Singh, S. 2010. The South Sfrican 'Information Society', 1994- 2008: Problems with Policy, Legislation, Rhetoric and Implementation. *Journal of Southern African Studies* 36(1):209–227.

*Sociology : Understanding and Changing the Social World*. 2016. Minneapolis, MN: University of Minnesota Libraries Publishing.

Southern African Development Community. 1996. Protocol on Transport, Communications and Meteorology. Maseru. Available from: http://www.sadc.int/files/7613/5292/8370/Protocol_on_Transport_Communications_and_Meteorology_1996.pdf [Accessed 17 December 2012].

Southern African Development Community. 2000. Protocol on Culture, Information and Sport. Available from: http://www.sadc.int/files/3213/5292/8362/Protocol_on_Culture_Information_and_Sport2001.pdf [Accessed 17 December 2012].

Southern African Development Community. 2001. Regional Indicative Strategic Development Plan. Gaborone. Available from: http://www.sadc.int/files/5713/5292/8372/Regional_Indicative_Strategic_Development_Plan.pdf [Accessed 12 March 2015].

Southern African Development Community. 2011. Desk Assessment of the Regional Indicative Strategic Development Plan 2005 - 2010. Gaborone. Available from: http://www.sadc.int/files/4413/5292/8372/Regional_Indicative_Strategic_Development_Plan_Desk_Assessment.pdf [Accessed 17 December 2012].

Southern African Development Community. 2012. About SADC. Available from: http://www.sadc.int/english/about-sadc/ [Accessed 17 December 2012].

Star, S.L. 1998. Grounded Classification: Grounded Theory and Faceted Classification. *Library Trends* 47(2):218–232.

Statistics South Africa. 2012. *Standard Industrial Classification of All Economic Activities (Seventh Edition)*. Pretoria.

Strauss, A. & Corbin, J. 1994. Grounded Theory Methodology. In: Denzin N and Lincoln Y (eds), *Handbook of Qualitative Research*, Thousand Oaks, CA: SAGE Publications, pp. 273–285.

Temple, B. & Young, A. 2004. Qualitative Research and Translation Dilemmas. *Qualitative Research* 4(2):161–178.

Terre Blanche, M.J. & Durrheim, K. 2006. Histories of the Present: Social Science Research in Context. 2nd ed. In: Terre Blanche MJ, Durrheim K, and Painter D (eds), *Research in Practice: Applied Methods for the Social Sciences*, Cape Town: University of Cape Town Press, pp. 1–17.

The African Capacity Building Foundation. 2013. Africa Capacity Indicators Data Tool. Available from: http://www.acbf-pact.org/sites/default/files/ACBF data tool.xls [Accessed 14 February 2016].

The Economist Intelligence Unit. 2010. Digital Economy Rankings 2010: Beyond e-Readiness. *The Economist*. Available from: http://graphics.eiu.com/upload/eiu_digital_economy_rankings_2010_final_web.pdf [Accessed 31 May 2014].

The Economist Intelligence Unit. 2013. Redefining the Digital Divide. Available from: http://ictlogy.net/bibliography/reports/projects.php?idp=2561 [Accessed 31 May 2014].

The World Bank. 2012. African Development Indicators. Available from: http://data.worldbank.org/data-catalog/africa-development-indicators [Accessed 17 December 2012].

The World Bank. 2014. World Development Indicators. *World DataBank*. Available from: http://databank.worldbank.org/data/views/reports/tableview.aspx?t=tableview&isshared=true [Accessed 26 June 2014].

Thompson, M. & Walsham, G. 2010. Information Technology for Development ICT Research in Africa : Need for a Strategic Developmental Focus. *Information Technology for Development ISSN:* 16(2):112–127.

Thurmond, V.A. 2001. The Point of Triangulation. *Journal of Nursing Scholarship* 33(3):253–258.

Tobin, G.A. & Begley, C.M. 2004. Methodological Rigour within a Qualitative Framework. *Journal of Advanced Nursing* 48(4):388–396.

Toyama, K. 2011. Technology as Amplifier in International Development. *Proceedings of the 2011 IConference*, Seattle, Washington, USA: ACM.

Available from: http://portal.acm.org/citation.cfm?doid=1940761.1940772 [Accessed 28 February 2018].

Toyama, K. 2014. Teaching How to Fish: Lessons from Information and Communication Technologies for International Development. *Journal of Marketing Management* 30(5–6):439–444.

Trafford, V. & Leshem, S. 2008. *Stepping Stones to Achieving Your Doctorate: Focussing on Your Viva from the Start*. Maidenhead: McGraw Hill Open University Press.

Tungodden, B. 2001. A Balanced View of Development as Freedom. CMI Working Papers, Bergen, Norway: Chr. Michelsen Institute (Working Paper Series). Available from: http://www.cmi.no/publications/file/953-a-balanced-view-of-development-as-freedom. [Accessed 20 January 2016].

Udombana, N.J. 2005. The Information Society, Poverty and Development: An African Perspective. *Revue Quebecoise de Droit International [The Quebec Journal of International Law]* 18(1):75–94.

Ulrich, P. & Chacko, J.G. 2005. Overview of ICT Policies and E-Strategies: An Assessment on the Role of Governments. *Information Technology for Development* 11(2):195–197.

UNESCO Information for All Programme. 2009. National Information Society Policy: A Template. Geneva: UNESCO Information for All Programme.

UNESCO Institute for Statistics. 2003. *Measuring and Monitoring the Information and Knowledge Societies: A Statistical Challenge*. Paris.

United Nations. 1945. Chapter X. *United Nations Charter*. Available from: http://www.un.org./en/sections/un-charter/chapter-x/index.html [Accessed 30 January 2016].

United Nations. 2000a. Development and International Cooperation in the Twenty-First Century: The Role of Information Technology in the Context of a Knowledge-Based Global Economy. *Ministerial Declaration of the High-Level Segment Submitted by the President of the Council*. Available from: http://www.un.org/en/ecosoc/docs/declarations/ministerial_declaration-2000.pdf [Accessed 30 January 2016].

United Nations. 2000b. Millenium Declaration. *General Assembly*, United Nations. Available from: http://www.un.org/en/ga/search/view_doc.asp?symbol=A/RES/55/2 [Accessed 17 December 2012].

United Nations. 2015. Transforming Our World: The 2030 Agenda for Sustainable Development (Resolution 70/1). Available from: http://www.un.org/en/ga/search/view_doc.asp?symbol=A/RES/70/1 [Accessed 26 January 2016].

United Nations. 2016. About Us. *United Nations Social and Economic Council*. Available from: https://www.un.org/ecosoc/en/about-us [Accessed 30 January 2016].

United Nations Department of Economic and Social Affairs. 2008. *International Standard Industrial Classification of All Economic Activities Revision 4*. New York: United Nations.

United Nations Development Programme. 2001. *Human Development Report 2001*. New York: Oxford University Press.

United Nations Development Programme (UNDP). 2015. *Human Development Report 2015: Work for Human Development*. New York, NY: United Nations Development Programme (UNDP).

United Nations World Summit on the Information Society. 2003. Declaration of Principles Building the Information Society: A Global Challenge in the New Millennium. Available from: http://www.itu.int/wsis/docs/geneva/official/dop.html [Accessed 17 December 2012].

United Nations World Summit on the Information Society. 2005a. Tunis Agenda for the Information Society. Tunis. Available from: http://www.itu.int/wsis/docs2/tunis/off/6rev1.html [Accessed 17 December 2012].

United Nations World Summit on the Information Society. 2005b. Tunis Commitment. Available from: http://www.itu.int/net/wsis/docs2/tunis/off/7.pdf [Accessed 17 December 2012].

University of South Africa. 2016. Policy on Research Ethics. Available from: http://staffcmsys.unisa.ac.za/cmsys/staff/contents/departments/res_policies/docs/Policy on Research Ethics - rev appr - Council - 15.09.2016.pdf [Accessed 13 December 2017].

Urquhart, C. 2002. Regrounding Grounded Theory – Or Reinforcing Old Prejudices? A Brief Reply To Bryant. *The Journal of Information Technology Theory and Application* 4(3):43–54.

Urquhart, C. 2013. *Grounded Theory for Qualitative Research*. *A Practical Guide*, London: Sage.

Urquhart, C. & Fernández, W. 2013. Using Grounded Theory Method in Information Systems: The Researcher as Blank Slate and Other Myths. *Journal of Information Technology*, Nature Publishing Group 28(3):224–236.

Urquhart, C., Lehmann, H. & Myers, M.D. 2010. Putting the 'Theory' Back into Grounded Theory: Guidelines for Grounded Theory Studies in Information Systems. *Information Systems Journal*, Wiley Online Library. Available from: http://doi.wiley.com/10.1111/j.1365-2575.2009.00328.x [Accessed 12 December 2012].

Van Audenhove, L. 2003a. Theories on the Information Society and Development: Recent Theoretical Contributions and Their Relevance for the Developing World. *Communicatio* 29(1–2):48–67.

Van Audenhove, L. 2003b. Towards an Integrated Information Society Policy in South Africa An Overview of Political Rhetoric and Policy Initiatives 1994 – 2000. *Communicatio* 29(1–2):129–147.

Van Audenhove, L., Burgelman, J.C., Nulens, G. & Cammaerts, B. 1999. Information Society Policy in the Developing World: A Critical Assessment. *Third World Quarterly*, Taylor & Francis 20(2):387–404.

Vaughan, D. 2006. ICT4D – Linking Policy to Community Outcomes. Available from: http://www.microdevpartners.org/documents/ICT4DLinkingPolicytoCommunityOutcomesPDF.pdf [Accessed 20 October 2013].

Vincent, L. 2008. Differentiating Competence, Capability and Capacity. *Innovating Perspectives* 16(3):1–2.

Vosloo, S. 2005. Towards a Sustainable Development View of Local Content Using ICTs in South Africa: A Key Priority in the National Information Society Strategy. In: Willard T and Andjelkovic M (eds), *A Developing Connection: Bridging the Policy Gap between the Information Society and Sustainable Development*, Winnipeg,Manitoba: International Institute for Sustainable Development (IISD), pp. 5–41.

Wagner, C., Botha, A. & Mentz, M. 2012. Developing a Research Topic and Planning the Research Project. In: Wagner C, Kawulich BB, and Garner M (eds), *Doing Social Research: A Global Context*, London: McGraw-Hill Higer Education, pp. 12–27.

Walt, S.M. 2005. The Relationship Between Theory and Policy in International Relations. *Annual Review of Political Science* 8(1):23–48.

Webster, F. 2006. *Theories of the Information Society*. 3rd ed. London: Routledge.

White, M.D. & Marsh, E.E. 2006. Content Analysis: A Flexible Methodology. *Library Trends* 55(1):22–45.

Women'sNet and the Open Society Initiative for Southern Africa. 2005. *Mainstreaming ICTs Africa Lives the Information Society*. Spurr N (ed.), Johannesburg: Women'sNet and the Open Society Initiative for Southern Africa.

World Economic Forum and INSEAD. 2012. *The Global Information Technology Report 2012: Living in a Hyperconnected World*. Dutta S and Bilbao-Osorio B (eds), Geneva: World Economic Forum and INSEAD.

World Economic Forum and INSEAD. 2015. *The Global Information Technology Report 2015: ICTs for Inclusive Growth*. Dutta S, Geiger T, and Lanvin B (eds), Geneva: World Economic Forum and INSEAD.

Yoon, J. & Chae, M. 2009. Varying Criticality of Key Success Factors of National E-Strategy along the Status of Economic Development of Nations. *Government Information Quarterly* 26(1):25–34.

Zhang, Y. & Wildemuth, B.M. 2005. Qualitative Analysis of Content. *Analysis* 1(2):1–12.

Zheng, Y., Hatakka, M., Sahay, S. & Andersson, A. 2018. Conceptualizing Development in Information and Communication Technology for Development (ICT4D). *Information Technology for Development* 24(1):1–14.

Zimbabwe Ministry of Science and Technology Development. 2005. National Information and Communication Technology Policy Framework. Available from: http://www.techzim.co.zw/wp-content/uploads/Zimbabwe_National_ICT_Policy_Framework_Dec2005.pdf [Accessed 3 March 2015].

# APPENDICES

## Appendix A: Ethics Approval Letter

UNISA university of south africa

**DEPARTMENT OF INFORMATION SCIENCE RESEARCH ETHICS REVIEW COMMITTEE**

Date: 09 June 2016

Ref #:2016_IS561-963-7_036]
Name of applicant: MCAM Sehlapelo
Student #:x

Dear Mr MCAM Sehlapelo,

**Decision: Ethics Approval**

---

**Name:** Mr MCAM Sehlapelo, 101 Verbenia Street, Lynnwood Ridge, 0081, Sehlapelo@telkomsa.net 083 457 1899.

Supervisor: Prof MK Minishi-Majanja, Information Science, Majanmk@unisa.ac.za; +27(0)12 429 6532.

: Prof P Ngulube, Information Science, ngulup@unisa.ac.za ; 012 4292832

**Proposal:** Towards Building an Effective Information Society for Development by Selected SADC countries

**Qualification:** Postgraduate degree, Doctoral

---

Thank you for the application for research ethics clearance by the Department of Information Science Research Ethics Review Committee for the above mentioned research. Final approval is granted for the duration of the project.

***For full approval:*** *The application was reviewed in compliance with the Unisa Policy on Research Ethics by the Department of Information Science on 09 June 2016.*
*The proposed research may now commence with the proviso that:*

1) *The researcher/s will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.*
2) *Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study, as well as changes in the methodology, should be communicated in writing to the Department of Information Science Ethics Review Committee. An amended application could be requested if there are substantial changes from the existing proposal, especially if those changes affect any of the*

Open Rubric

University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

*study-related risks for the research participants.*

3) *The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study.*

*Note:*

*The reference number [2016_IS561-963-7_036] should be clearly indicated on all forms of communication [e.g. Webmail, E-mail messages, letters] with the intended research participants, as well as with the Department of Information Science RERC.*

Kind regards,

Prof GV Jiyane
Department of Information Science

012 429 6057



University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

**Appendix B: Participant Information Sheet**

1 October 2017

Title: Towards Building an Effective Information Society for Development by Selected SADC Countries

Dear Prospective Participant

My name is Martin Sehlapelo and I am doing research with Mabel Minishi-Majanja, a Professor and Director in the School of Arts towards a Doctor of Philosophy and Literature (Information Science) at the University of South Africa. We have funding from the National Institute for Humanities and Social Sciences towards my study fees. We are inviting you to participate in a study entitled "Towards Building an Effective Information Society for Development by Selected SADC Countries."

WHAT IS THE PURPOSE OF THE STUDY?

This study is expected to collect important information that could lead us to generate a substantive theory of how SADC and other developing countries could build an information society for development.

WHY AM I BEING INVITED TO PARTICIPATE?

You have been chosen to participate in this study because you have been identified as having participated in the development or implementation of the national ICT policy/ information society programme in your country or in the SADC. The approximate number of participants for this study is ten.

WHAT IS THE NATURE OF MY PARTICIPATION IN THIS STUDY?

The study involves you being part of semi-structured interviews that may be recorded based on your permission. Your participation is limited to responding to open ended questions that we may ask electronically, via phone/Skype, or personally. You will be asked questions such as the ones below:

University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsmile: +27 429 12 429 4150
www.unisa.ac.za

1. Please inform me of your role in the information society/ ICT for development programme of _____ [Country].
2. What do you think are the three most important things to do for a country that wants to build an information society?
3. Who do you consider to be the key role-players in building an information society?

The time allocated to conduct interviews is between 30 and 60 minutes. This may be extended based on your permission.

CAN I WITHDRAW FROM THIS STUDY EVEN AFTER HAVING AGREED TO PARTICIPATE?

Participating in this study is voluntary and you are under no obligation to consent to participation. If you do decide to take part, you will be given this information sheet to keep and be asked to sign a written consent form. You are free to withdraw at any time and without giving a reason.

WHAT ARE THE POTENTIAL BENEFITS OF TAKING PART IN THIS STUDY?

There are no benefits for the participant, the participants as a group, save for the access to the research outputs. The research will benefit the scientific community and/or society through the generation of a theory that will be utilised to build an information society for development.

ARE THEIR ANY NEGATIVE CONSEQUENCES FOR ME IF I PARTICIPATE IN THE RESEARCH PROJECT?

There are no negative consequences for participating in this research project. By participating you will only lose 30 to 60 minutes of your time and depending on the mode of communication, the cost of the call. We may compensate you for the call costs should this be necessary.

WILL THE INFORMATION THAT I CONVEY TO THE RESEARCHER AND MY IDENTITY BE KEPT CONFIDENTIAL?

You have the right to insist that your name will not be recorder anywhere and that no one, apart from the researcher and identified members of the research team, will know about your involvement in this research *[this measure refers to confidentiality]* OR your name will not be recorded anywhere and no one will be able to connect you to the answers you give *[this measure refers to anonymity]*. Your answers will be given a code number or a pseudonym and you will be referred to in this way in

the data, any publications, or other research reporting methods such as conference proceedings *[this measure refers to confidentiality].*

Only the researcher will have access to the data that could be used to identify you. Your answers may be reviewed by people responsible for making sure that research is done properly, including the transcriber, external coder, and members of the Research Ethics Review Committee. Otherwise, records that identify you will be available only to people working on the study, unless you give permission for other people to see the records.

Your anonymous data may be used for other purposes, such as a research report, journal articles and/or conference proceedings. A report of the study may be submitted for publication, but individual participants will not be identifiable in such a report.

HOW WILL THE RESEARCHER(S) PROTECT THE SECURITY OF DATA?

No hard copies of your answers will be stored by the researcher, however, for future research or academic purposes, electronic information will be stored on a password protected computer. Future use of the stored data will be subject to further Research Ethics Review and approval if applicable. Electronic copies will be permanently deleted from the hard drive of the computer through the use of a relevant software programme.

WILL I RECEIVE PAYMENT OR ANY INCENTIVES FOR PARTICIPATING IN THIS STUDY?

You will not receive any payment or reward, financial or otherwise. Any costs incurred by the participant should be explained and justified in adherence with the principle of fair procedures (justice).

HAS THE STUDY RECEIVED ETHICS APPROVAL?

This study has received written approval from the Research Ethics Review Committee of the Department of Information Science, Unisa. A copy of the approval letter can be obtained from the researcher if you so wish.

HOW WILL I BE INFORMED OF THE FINDINGS/RESULTS OF THE RESEARCH?

If you would like to be informed of the final research findings, please contact Martin Sehlapelo on +27(0)83 45871899 or email sehlapelo@telkomsa.net or the Unisa institutional repository http://uir.unisa.ac.za. The findings are accessible from July 2018.

Should you require any further information or want to contact the researcher about any aspect of this study, please contact Martin Sehlapelo, +27(0)83 4571899, sehlapelo@telkomsa.net.

Should you have concerns about the way in which the research has been conducted, you may contact Prof MK Minishi-Majanja, Majanmk@unisa.ac.za, Tel.: +27(0)12 429 6532, Fax: +27(0)12 429 3089. Alternatively, contact the research ethics chairperson of the Department of Information Science Research Ethics Review Committee, Prof GV Jiyane, jiyangv@unisa.ac.za, Tel.: +27(0)12 429 6057, and Fax: 012 429 3792.

Thank you for taking time to read this information sheet and for participating in this study.

Thank you.

Martin Sehlapelo

**Appendix C: Consent to Participate in the Study**

I, _____ (participant name), confirm that the person asking my consent to take part in this research has told me about the nature, procedure, potential benefits and anticipated inconvenience of participation.

I have read (or had explained to me) and understood the study as explained in the information sheet.

I have had sufficient opportunity to ask questions and am prepared to participate in the study.

I understand that my participation is voluntary and that I am free to withdraw at any time without penalty (if applicable).

I am aware that the findings of this study will be processed into a research report, journal publications and/or conference proceedings, but that my participation will be kept confidential unless otherwise specified.

I agree to the recording of the interview.

I have received a signed copy of the informed consent agreement.

Participant Name & Surname…… (please print)

Participant Signature……..Date……

Researcher's Name & Surname……(please print)

Researcher's signature……..Date……

**Appendix D: Interview Guide**

1 Introductions and other preliminaries:

1.1 My name is Martin Sehlapelo. I am a doctoral student at the University of South Africa (Unisa) within the Department of Information Science.

1.2 The topic of my research is “Towards Building an Effective Information Society for Development by Selected SADC Countries.”

1.3 The purpose of my study is to generate a substantive theory for the building of an information society by SADC and other developing countries.

1.4 This interview is expected to take about 30 minutes and if necessary and with your permission, we may extend.

1.5 May I record our discussion?

2 Ethical Aspects of the Research:

2.1 This research and the way it is conducted has been approved by the Unisa, Department of Information Science Research Ethics Review Committee on 9 June 2016. A copy of the approval letter with the following reference number for the approval being 2016_IS561-963-7_036 may be provided should you so require.

2.2 You are free to participate or withdraw at any time during the interview;

2.3 I am the only person who will have access to the information that may positively identify you.

2.4 I will ensure that I hide your identity, where appropriate, by using codes and disguised names for participants and the institutions they belong to.

2.5 Once I have done with the data relating to this interview, I will destroy all the recordings and information that could positively be used to identify you.

2.6 I am the only person who will have access to the information that could be utilised to identify you as the person who made specific statement.

2.7 Should my supervisors require the information that may identify you as the person who said particular statements, I will ask permission from you before I give them the said information.

2.8 I may not give you any monetary reward for participating in the research. I may however share with you my research report.

2.9 Your participation will contribute towards the understanding and the development of theories for the information societies within SADC countries.

2.10 Do you have any questions?

3 Content of Interview:

3.1 The questions that follow are open-ended and allow you to express your views in relation to the information society in a manner that you are comfortable with.

3.2 Tell me what you know about the information society/ National ICT policies.

3.3 Please inform me of your role in the information society/ ICT for development programme of _____ [Country]/ SADC.

3.4 What do you think are the three most important things to do for a country that wants to build an information society?

3.5 Who do you consider to be the key role-players in building an information society?

3.6 What do you consider to be the tasks/ functions/ work of these role-players?

3.7 In your opinion is the pursuit of the information society still relevant?

3.8 Do you think that the national ICT policy for your country has achieved what it set out to do?

3.9 How would you respond to the view that _____ [Country] and other SADC countries were just copying other countries in their national ICT policies?

3.10 What are your views on the information society and the Fourth Industrial Revolution?

4 Conclusions:

4.1 I hope you will still be willing to accommodate me should I need to follow up on some of your responses.

4.2 Do you have any questions for me?

4.3 Thank you for your time and your insights, they are much appreciated.

## Appendix E: Full List of Initial Codes

| Hierarchical Code Name | Description |
|---|---|
| Coding the Policies | All the nodes with "Coding the Policies" were created when the policies were initially coded. |
| Coding the Policies\Access to ICT products and services | |
| Coding the Policies\Affordability | This code refers to the affordability of ICT related issues |
| Coding the Policies\Aligning | This code relates to the attempt at copying or trying to be in line with the world i.e. other countries or the expectations of the world. |
| Coding the Policies\Civil Society Role | |
| Coding the Policies\Competition and competitiveness | |
| Coding the Policies\Connectivity | Relates to the relevance of connectivity to the information society or development. |
| Coding the Policies\Connectivity\Connectivity draws communities together | Where the document suggests that connectivity has the effect of bringing communities together. |
| Coding the Policies\Connectivity\Connectivity facilitates economic growth and development | Where the text refers to the impact of connectivity to economic growth or economic development |
| Coding the Policies\Consulted Stakeholders | The development of the policy was developed through the consultation of stakeholders |
| Coding the Policies\Consulted Stakeholders\All segments of society | broad-based consultations |
| Coding the Policies\Consulted Stakeholders\Special Team | This refers to a special team or teams appointed to develop the policy |
| Coding the Policies\Consulted Stakeholders\Unspecified Stakeholders | The document only specifies some stakeholders without any qualification |
| Coding the Policies\Content | |
| Coding the Policies\Convergence | |
| Coding the Policies\Coordination and Synergy | Reference to the reduction of fragmentation and duplication. This could be through the establishment of a coordination centre for ICT programmes. |
| Coding the Policies\Cultural Considerations | Cultural considerations in the broadest sense |
| Coding the Policies\Development goals | Reference to development goals however they are defined by the country is coded at this point. |

| Hierarchical Code Name | Description |
|---|---|
| Coding the Policies\Disaster Management | |
| Coding the Policies\Economic and Business Considerations | This relates to the economic and/or business implications of ICT or the information society |
| Coding the Policies\Economic and Business Considerations\Financial Sector | |
| Coding the Policies\Economic and Business Considerations\ICT Hub | The policy intends to build an ICT Hub in the country concerned. |
| Coding the Policies\Environment and Agriculture | Policy refers to either environmental or agricultural issues |
| Coding the Policies\Funding | The issues related to funding or budgeting for the implementation of the Information Society programmes |
| Coding the Policies\Government Role in ICT | |
| Coding the Policies\Green ICT | |
| Coding the Policies\Health improvement | |
| Coding the Policies\Human Resource Development | Information society or ICT role in Human Resource Development |
| Coding the Policies\Human Resource Development\Skills | The document highlights the importance of skills |
| Coding the Policies\ICT Industry-Sector | This will relate to the ICT sector as well as ICT as an Industry |
| Coding the Policies\ICT Infrastructure | This relates to the ICT infrastructure focus that the country need to attend t |
| Coding the Policies\Implementation Monitoring | Reference to the monitoring of the policy or its implementation |
| Coding the Policies\Importance of ICT for Development | This node addresses the importance or relevance of ICT to the achievement of development within a specific country |
| Coding the Policies\Information Access | Information society/ National ICT Policies relate to access to or the provision of information [Access, sharing, and dissemination] |
| Coding the Policies\Internal Digital Divide | This relates to reference to the digital divide within a country |
| Coding the Policies\International collaboration | |
| Coding the Policies\Leadership | Reference to the leadership of the programme to implement the information society or any of its related policies |

| Hierarchical Code Name | Description |
|---|---|
| Coding the Policies\Legal & Governance Environment | Relationship between the Information Society Policy / ICT Policy and legislation and in the context of the legal environment inclusive of governance |
| Coding the Policies\Link to information society | The linkage of the document to the achievement of an information society |
| Coding the Policies\Mining | |
| Coding the Policies\Other policies | Linkage and reference to other policies, plans, strategies, and programmes to respond to the first research question |
| Coding the Policies\Pervasiveness of ICT or IT | IT, ICT, Information etc. covers all aspects of a society |
| Coding the Policies\Political Considerations | |
| Coding the Policies\Poverty Reduction and Eradication | Reduction or eradication of poverty is one of the key purposes for ICT Policies |
| Coding the Policies\priority focus areas | |
| Coding the Policies\Private Sector Role | Describes the role of the private sector in the promotion of ICT or the development of the information society |
| Coding the Policies\Privatisation & Commercialisation | |
| Coding the Policies\Quality of service | |
| Coding the Policies\Rationale for Policy | This node provides highlights the rationale for the policy. This could be to comply with international obligation, or to provide guidelines for developing an information society |
| Coding the Policies\Regulating | |
| Coding the Policies\Regulating\Independent Regulation | |
| Coding the Policies\Role of Higher Education and Research Institutions | |
| Coding the Policies\Rural Urban Imbalances | Reference to addressing the rural/urban imbalance of ICT |
| Coding the Policies\Scarcity of Resources | |
| Coding the Policies\Security Considerations | |
| Coding the Policies\SMME | |
| Coding the Policies\Social Considerations | Social considerations in the broader sense, as opposed to economic or cultural considerations |

| Hierarchical Code Name | Description |
|---|---|
| Coding the Policies\Social Group Targeting | The social group targeted by the policy, youth, women, etc. |
| Coding the Policies\Social Group Targeting\Children and youth | The group of children and/or youth is targeted |
| Coding the Policies\Social Group Targeting\Elderly People | |
| Coding the Policies\Social Group Targeting\People with disabilities | |
| Coding the Policies\Social Group Targeting\Poor | |
| Coding the Policies\Social Group Targeting\Women and girls | The policy is targeting the improvement of women and girls |
| Coding the Policies\Standards and Guidelines | |
| Coding the Policies\Supporting Infrastructure | Supporting infrastructure is that infrastructure like electricity, roads, etc. that is not ICT but supports the development, implementation, or support if ICTs. |
| Coding the Policies\Tourism | |
| Coding the Policies\Unemployment | |
| Coding the Policies\Universal Service Funding | |
| Coding the Policies\Visioning | This is how the country perceives itself as an information society |
| Development | |
| Development\Economic Growth in Sub-Saharan Africa | |
| Development\Measurement of Development | |
| Development\Nature of Development | Definition, description, of development |
| Development\Poverty in Sub-Saharan Africa is high | |
| Information Society | |
| Information Society\Benefits of ICT-Information Society | |
| Information Society\Benefits of ICT-Information Society\Basic Services & Human Rights | |
| Information Society\Benefits of ICT-Information Society\Civic and Political Benefits | |
| Information Society\Benefits of ICT-Information Society\Creativity and Content Creation | |

| Hierarchical Code Name | Description |
|---|---|
| Information Society\Benefits of ICT-Information Society\Progress in application of ICT in Economy | The Policy/strategy acknowledges progress in the application of ICTs in the economy |
| Information Society\Broadband | |
| Information Society\Challenges of Building Information Society | |
| Information Society\Challenges of Building Information Society\Content | |
| Information Society\Challenges of Building Information Society\Cost of ICT | |
| Information Society\Challenges of Building Information Society\Geographic Location | |
| Information Society\Challenges of Building Information Society\Infrastructure | |
| Information Society\Challenges of Building Information Society\Infrastructure\Ownership of telecoms | |
| Information Society\Challenges of Building Information Society\Leadership | |
| Information Society\Challenges of Building Information Society\Poor E-commerce readiness | |
| Information Society\Challenges of Building Information Society\Resistance to change (culture) | |
| Information Society\Challenges of Building Information Society\Skills | |
| Information Society\Challenges of Building Information Society\Slow progress of deregulation | |
| Information Society\Challenges of Building Information Society\Socio-economic issues | |
| Information Society\Concept of the information society | This note outlines the definition and history of the information society concept |
| Information Society\Defining Information Society | |
| Information Society\eGovernment | |
| Information Society\Governance of ICT | |
| Information Society\Implementation | |
| Information Society\Implementation\Complexity Theory | An approach to look at the implementation of the information society |

| Hierarchical Code Name | Description |
|---|---|
| Information Society\Information Society Plans and Policies | |
| Information Society\Information Society Plans and Policies\Justification of Information Policy | Why should countries develop information policies |
| Information Society\Information Society Plans and Policies\Nature and benefit of policy | |
| Information Society\Information Society Plans and Policies\Policy Development Process | |
| Information Society\Information Society Plans and Policies\Role Players | |
| Information Society\Information Society Plans and Policies\Scope of policy | |
| Information Society\Measuring Information Society | |
| Information Society\Measuring Information Society\Classification of information societies based on the “8 Cs” framework | |
| Information Society\Mobile | |
| Information Society\The Digital Divide | Recognition of the existence of the digital divide |
| Information Society\The Digital Divide\Bridging the digital divide | |
| Information Society\The Digital Divide\Digital Divide Definition | |
| Information Society\The Digital Divide\Measuring the Digital Divide | |
| Public Policy | |

## Appendix F: Specific Policy Areas Referred to by the National ICT Policies

| Broad Policy Area | Specific Policy Area | Botswana | Lesotho | Malawi | Mauritius | Mozambique | Namibia | Seychelles | South Africa | Swaziland | Tanzania | Zambia | Zimbabwe | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Information Society/ ICT Related | Arts, Culture and Heritage | | | | | | | | x | | | | | *1* |
| | Broadband | | | | x | | | | | | | | | *1* |
| | Broadcasting | | | x | | | x | | | | x | | | *3* |
| | Communications Sector | | | x | | | | | | | | | | *1* |
| | e-Commerce | | | | | | | | | x | | | | *1* |
| | e-Government & Governance | | | | | | | | x | x | | | | *2* |
| | Information Security | | | | x | | | | | | | | | *1* |
| | Information Technology | | | | | | x | | | | | | | *1* |
| | Postal | | | | | | x | | | | | | | *1* |
| | Science & Technology | | | x | | | | | x | | x | | x | *4* |
| | Telecommunications | | | | | | x | | | | x | | | *2* |
| | Universal Service | | | | | | | | x | | | | | *1* |
| Development | Economic Development/ Industrialisation | | | x | | | | | | x | | | x | *3* |
| | ICT SMME | | | | | | | | x | | | | | *1* |
| | Poverty Reduction | | x | | | | | | | x | | | | *2* |
| | Settlement | x | | | | | | | x | | | | | *2* |
| Political Sphere | Foreign Affairs | | | x | | x | | | | | | | | *2* |
| | Political Governance | | | x | | | | | | | | | | *1* |
| Health | Health | | | | | | | | x | x | | | | *2* |
| Human Knowledge Development/ Education | Human Resources Development | | | | | | | | x | | | x | | *2* |
| | Research and Development | | | | | | | | x | | | | | *1* |
| ***Tally of Policy Area*** | | ***1*** | ***1*** | ***6*** | ***2*** | ***1*** | ***4*** | ***0*** | ***9*** | ***5*** | ***3*** | ***1*** | ***2*** | ***35*** |

**Appendix G: Example of Memos**

**Name:** Scarcity of Resources

**2016/05/15 12:14 PM -** Reading section 6 of the Mozambique Policy the statement on the scarcity of resources "human, technical, or financial" seems to be a driving force for some of the issues in the policies. e.g. the privatisation that I refer to in the Memo on CAPACITATING on **2016/05/14 10:05 PM.** CAPACITATING is addressing the SCARCITY OF RESOURCES in this Memo.

The codes that relate to AFFORDABILITY and FUNDING also relate to this SCARCITY OF RESOURCES in numerous ways.

Can it be that the information society policies are always trying to address LACK of something [gerund = LACKING] which is in any case what development aims to address.

**2016/05/15 11:35 PM -** The Namibian Policy notes that the affordability of ICTs are increasing and thus contributing towards equalising the economic gap.

**2016/05/16 7:28 PM -** Still in the Namibian Policy I encountered a comment intimating that "Liberalisation" is also aimed at improved quality of service. This was a surprise considering that since most policies are government led [NEED TO CHECK IF THIS IS THE ONLY POLICY THAT HAS A SIMILAR SENTIMENT]

**2016/05/25 12:07 AM** - Whilst the reduction of taxes and tariffs on imported ICT goods, these may have the challenge of killing the competitiveness of locally produced ICT goods (if any).

Many of the policies focus on local content for local consumption which means that they dont plan to expand their produce and thus the limit of their efforts will be their own countries.

**2016/05/29 12:39 PM -** Zim Policy page 10 "The need to mobilize adequate resources (Human, Infrastructure, Institutional, Financial and Technological) to effectively implement the ICT Policy"

**Name:** Rationalising

**2016/05/02 12:19 PM -** In this memo I discuss the rationale for the development of the ICT Policy, i have linked it to the rationale for the ICT policy.

The Lesotho policy specifically links the ICT policy as a tool to channel and mobilise investments necessary to achieve the goals of the information society.

**2016/11/01 8:15 AM -** I introduced a new sub-node which provides the dimension of the Rationale, the initial and most obvious is that the roadmap is the roadmap. This new node focusses on the policy rather than the outcome of the policy.

**Name:** Capacitating

**2016/04/29 11:10 AM -** This memo discussed the Human resource development or skills or training which has become necessitated as a result of the new technologies. The Lesotho ICT Policy starts in its foreword by stating that the Information revolution has been brought upon by the advances in communications, computing, and IT has necessitated the need to learn new skills as well as utilised technology to do things differently.

Not only is it necessary to improve skills, but ICT are able to assist in improving the level of education and skills.

**2016/05/02 12:17 PM -** The memo used to be referred to as New skills and training, I have now renamed is as CAPACITATING because it actually relates to building different forms of capacity which may be in the form of education, skills, etc.

**2016/05/02 9:54 PM** - The Lesotho policy raises a number of issues related to capacity building. These include among other the following:

1. Collaboration between the public and the private sectors,
2. Formal and other forms of training
3. The use of distance and virtual education delivery programmes
4. Increasing the amount of ICT professionals as well as the ICT skills of educators in general
5. Affordable programmes
6.

**2016/05/03 12:21 AM -** Noticed that developing/promoting specific cultures that will lead to increased adoption ICT and this could be linked to Human Resource Development.

**2016/05/08 12:16 PM -** Not only is the HRD development important, Malawi ICT policy states that the low levels of ICT literacy and awareness could tend to negatively impact the implementation of the policy itself.

**2016/05/14 10:05 PM -** Section 5.1 of the Mozambique policy argues that the requirement of resources/funds for infrastructure is driving the move from monopoly to competitiveness.

Need for Infrastructure -----> Affordability -------> Funds -------> Privatisation and competition

Also the weakness of the private sector is leading to the increasing role of the state.

Dimension of CAPACITATING in the context of Human Resources seems to move from the continuum of:

Awareness --- Information sharing --- motivating --- skills -- knowledge --- educating --- developing new products and services (the question of interest is also that which relates to who is acting the capacitator or the capacitate, *it moves from someone doing something for another to that other being able to do something for someone else which is the highest stage of capacitating*)

**2016/05/15 11:32 PM** - The Namibian Policy talks about equal opportunities that are facilitated by ICTs, this should link to the focus on certain sectors of society that may be perceived to be underprivileged

**2016/05/21 1:12 PM -** Affordability detracts from capacitating and access and therefore perpetuates the digital divide.

2016/05/21 10:35 PM - CAPACITATING seems to be a prime candidate for the main idea.

**2016/05/24 10:25 PM -** Making people aware of how they could be more aware (i.e. if the ICT are tools for information distribution and the populace is not aware of them how does is this conundrum solved). Reference to education system. The Swazi policy refers to the use of radio as a medium.

**2016/05/24 11:01 PM -** Coommon themes using different words or breaking down concepts into their component parts e.g.

**2016/05/26 11:25 PM -** CAPACITATING is also adressing the scarcity of some resources or desirable something (SCARCITY OF RESOURCES). The dimensions of these themes could be considered as being (it exists, partially exists, does not exists).

**Name:** Aligning

**2016/04/27 12:58 PM** - I am listening to Barney Glaser on a video posted at http://www.groundedtheoryonline.com/what-is-grounded-theory/ and talks about credentialising and supernormalising as developed by Charmaz, and it strikes me that the National ICT policies seem to be ALIGNING to what they see to be happening in the advanced economies or contries that are perceived to be advancing successfully towards becoming Information Societies.

This approach seems to be leading to no other point than becoming perpertually lagging those which they copy.

The documents seem to be saying, we are unique but lead towards the opposite.

This phenomen is curiosly akin to the "New Year's Resolution" effect. A person decides that in order to improve themselves they have to start doing something differently, this something may be like eating healthy, exercising, reading more, etc. As fate would have it, the person could start the behaviours [This may need to be verified by seeking additional information e.g. interviewing a few people, to confirm if the start happens]

{Additional Research}

**2016/04/27 7:46 PM** - The reference to rural and urban focus is obviously not copying the developed countries.

**2016/05/02 12:24 PM -** Though of ALIGNING, especially when related to the ICT Policy, as being related to OTHER POLICIES.

**2016/05/02 12:36 PM -** This should also be like donging what is percieived to be "what the world expects"

**2016/05/14 10:23 PM** - A key question that arises as I am coding the Mozambique Policy is whether this alignment to those who are advanced is a PUSH or a PULL system. I appears that the goverment is pulling the lessons from other countries and pushing these to their citizens. See 5.1 d) which emphasises the PROMOTION of the use of ICTs.

5.2 of Mozambique policy states that in the developed countries the private sector is driving the information society. This makes one wonder if what is emerging from the policies coded so far whereby the government seems to be the driving force is at odds. Will this not make the aligment fail?

**2016/05/18 10:33 PM -** The World Economic Forum's Global Information

Technology Report seems to be one of the measures of where countries seat wrt the information society, it could provide information on which countries the SADC countries could be emulating

**2016/05/29 1:45 AM -** When reading the Zambian policy I realised that ALGINING is not only with regards to other countries but also with international bodies such as SADC. There is a protocol on harmonising the legislations of Southern African countries.

**2016/06/03 9:45 AM -** Need to address coloniality in terms of this theme {to be included in Chapter 5} Discuss the decolonial approach to understand the concept of ALIGNMENT (Listen to the voice recording of Dr Mazibuko at the NIHSS "Write-up Workshop")

**2016/06/07 11:26 PM -** I conducted a quick query and to check which policies were coded at the aligning node noticed that Botswana and Seychelles were the only 2 countries that were not coded at that node. I tried to recode the two policies and could not find a direct code for Botswana but for Seychelles.