

**Exploring how mobile phones mediate bonding, bridging and linking social capital in a
South African rural area.**

Stella Mbalenhle Nomfundo Buthelezi

A thesis submitted in partial fulfilment of the requirements of the Master of Arts Degree in
Journalism and Media Studies.

Rhodes University

Supervisor: Professor Lorenzo Dalvit

February 2020

For my son, Sivunesihle.

ACKNOWLEDGEMENTS

I give thanks to our heavenly Father for his mercies while pursuing this degree.

I would like to thank my supervisor, Professor Lorenzo Dalvit. This thesis would not have been possible without you. I am grateful to you for your insights, guidance, wisdom, patience and continuous support. Thank you for introducing me to the community of Dwesa, which was always welcoming. It resembles home in many ways. I would lastly like to thank you for your assistance in getting financial support through the National Research Foundation (NRF), Human and Social Dynamics Funding Instrument HSD180208311014.

To *Abafambi*, Bella, Happy, Mandisa, Noko, Tamuka and the ‘additional’ member Tatenda, thank you for the support and being the best classmates anyone could ask for.

A special thank you goes to my mother, Dr Nontobeko MaZuma Buthelezi. You are an extraordinary woman who has not only made me believe in the greater good of humanity but you have also taught me that unconditional love has no biological boundaries. Your love, support and guidance have always made me seek to become a better person. You have always led by example. Ngiyabonga Ma. *Izandla zidlula ikhanda*.

Thank you to my very big family. My grandparents, uMkhulu Zungu and Mkhulu Heleza, *omama bami, obaba no-anti* for playing individual roles in raising me. To ALL, my brothers and sisters, our unity is everything. Let us keep cheering each other on.

Special thanks to Sivunesihle’s father, Sivuyile Nkohla. Your love and support have been nothing short of amazing.

ABSTRACT

Many contemporary ICT for development (ICT4D) studies focus on the benefits of mobile phones on the socio-economic development of marginalised communities. For many people in poorly resourced rural areas, one of the significant benefits of mobile phone usage is the expansion of social networks for resources or support. Social capital is one of the concepts that have been found to directly or indirectly influence many aspects of social life, communities and development. In the present study, I explore how mobile phones mediate bonding, bridging and linking social capital in a rural area on the Wild Coast of South Africa, Dwesa. I use individual semi-structured interviews with purposefully selected participants who are mobile phone owners in the area. I employ a thematic analysis to analyse their responses in relation to three dimensions of social capital, i.e. 1) trust and solidarity, 2) social cohesion and inclusion and 3) collective action and empowerment. Like in many South African rural areas, in Dwesa there is endemic poverty, inadequate services and infrastructure and high unemployment. The study found that by increased communication, mobile phones mostly strengthen bonding social capital between close ties who rely on each other for various forms of support. Mobile phones also facilitate the building of bridging social capital among members of various community groups by using WhatsApp group chats and Facebook. The little evidence on the relationship between mobile phone use and linking social capital in the area relates to group networks providing opportunities for interaction between community members and individuals in tertiary institutions and local government positions.

CONTENTS

ABSTRACT	iv
CHAPTER 1: INTRODUCTION	1
1.1 Background	1
1.2 Context	3
1.3 Research aims and questions.....	5
1.4 Thesis outline	6
CHAPTER 2: LITERATURE REVIEW	8
2.1 ICT for Development	8
2.2 Digital inequalities	11
2.3 Benefits of mobile technology in African marginalised areas	13
2.4 Conclusion.....	16
CHAPTER 3: THEORETICAL FRAMEWORK	18
3.1 Social Capital	18
3.2 Digital technology and social capital	21
3.3 Types of social capital.....	23
3.4 Dimensions of social capital	25
3.5 Conclusion.....	28
CHAPTER 4: RESEARCH METHODOLOGY AND METHODS	29
4.1 Research paradigm	29
4.2 Data collection methods.....	30
4.3 Selection of participants and size	32
4.4 Ethical considerations and limitations of the study.....	34
4.4 Conclusion.....	35
CHAPTER 5: FINDINGS	37
5.1 Trust and solidarity.....	38
5.2 Social cohesion and inclusion	44
5.3 Collective action and empowerment	47
5.4 Conclusion.....	49
CHAPTER 6: CONCLUSION	50

6.1 Key findings.....	50
6.2 Reflections on the process.....	52
6.3 Recommendations and future research.....	52
APPENDIX.....	54
BIBLIOGRAPHY	55

CHAPTER 1: INTRODUCTION

In this chapter, I outline the context and background of the study. I begin with a discussion of the perceived role of information and communication technologies, focusing on mobile phones in African rural settings. I then provide a brief contextualisation of the area under study, Dwesa. I outline the research objectives, questions and methodologies that shape the research and conclude with the organisation of the thesis by discussing what each chapter entails.

1.1 Background

Over the past decade, there has been a growing interest in the potential role of information and communication technology (ICT), to enable third world countries to participate in the global knowledge economy (Kellerman, 2006). For the poor, ICTs are more than just a tool to facilitate communication, they provide a response to challenges such as globalisation and tools for addressing social issues of inequality and lack of access to basic education or health services (Fanta & Upadhyay, 2009). A significant body of research in the field of ICT for Development (ICT4D) focuses on the impact of mobile phones on the socio-economic growth of developing countries in Africa (Obijiofor, 2015; Lyimo-Macha, Kiondo & Sife, 2010; Bhatia, Bhavnani, Won-Wai Chiu, Janakiram & Silarszky, 2008). Mobile phones have brought about a change in the economic, political and social lives of the poorest people (Lynn & Kaminska, 2013; Dyson, Grant & Hendriks, 2005). According to Dyson et al. (2005:5), mobile phones help overcome the challenge of distance from essential services and bring wide-ranging improvements and benefits to the lives of people in remote, disadvantaged communities. Even when people in rural areas do not have phone landlines, they can access information and communicate with friends, family and business contacts by using mobile devices (Lynn & Kaminska, 2013).

Recent developments, including a convergence with multimedia, have enabled mobile phones to become 'all-in-one' devices that not only enable interpersonal communication (e.g. phone calls, e-mail, social media) but also allow access to other features such as video recorders, photo albums, mini-notebooks, radio, alarm clock, a watch and services such as e-banking and e-commerce (Ussher, 2015; Donner, 2008). This study focuses on mobile phones as digital devices with both communication and multimedia functions. Wei (2013:52) defines mobile media as "personal, interactive, internet-enabled and user-controlled, portable platforms that

[allow] the exchange...and sharing of personal and non-personal information among users who are interconnected". Mobile media encompasses a range of hand-held devices such as mobile phones, e-readers and game consoles. Accordingly, mobile media also includes the wide-ranging content captured with or shared through mobile interfaces (Wei, 2013).

Mobile phones are popular in Africa for various reasons; in the late 1990s liberalising of the telecommunication sector facilitated the introduction and therefore increased accessibility of mobiles in African economies (Ussher, 2015; Etzo & Collender, 2010). Compared to other technologies such as computers, mobile phones are more user-friendly and require less technical skills and training to use (Botelho & Alves, 2007). Furthermore, mobile phones are popular in many African regions because they do not require people to have electricity in their households and do not need to be kept plugged on all the time (Ussher, 2015; Kellerman, 2006). In many parts of Africa, people without electricity in their homes charge their mobile devices in the local shops (Ussher, 2015). The relatively affordable, 'pay-as-you-go'¹ system which many people use makes mobile phones accessible as people have the choice to monitor their spending on airtime and data (Ussher, 2015; Lacohee, Wakeford & Pearson, 2003).

Despite the relatively high costs of mobile phones and mobile communication, for people in many rural areas, mobile technologies present an opportunity to be economically, politically and socially included. Although many South Africans still use regular feature phones, a survey conducted in 2016 reports that 60% of the national population own a smartphone and this uptake would continuously increase by up to 20% every year (Abraham, 2018). Over the last decade, there has been relatively widespread uptake of mobile phone use, even for people in rural areas (Ramani, 2017). According to (Lembani, Gunter, Breines & Dalu, 2019) rural areas in South Africa lag concerning ICT access and also fall behind regarding other factors linked to its usages, such as literacy and computer skills. Many people from rural and impoverished households cannot afford the costs associated with this technology (Sithole, Moses, Davids, Parker, Rumbelow, Molotja & Labadarios, 2014). Although nationally, the average monthly individual income is R2587, the typical monthly wage in traditional rural areas is around R800, which is less than a third of the national average (Rey-Moreno, Blignaut, Tucker, & May,

1

Pay as you go is a mobile phone contract where one pays for credit for phone calls, texts or data in advance (Southerton & May, 2014).

2016). Researchers who conducted mobile phone studies in South African rural areas found that people in rural areas have additional mobile phone expenses such as markup added by the local airtime resellers and monies spent on charging the mobile phone (see Rey-Moreno et al., 2016). Little is known about how rural dwellers capitalise on such onerous expenses. Despite the significant decrease in the cost of mobile data, airtime and data are still unaffordable for the majority of South African citizens, especially those living in extreme poverty in rural communities (Goldstuck, 2012). However, mobile phone operators in South Africa provide discounted voice communication options to family groups and friends by offering discounted bundles and tariff plans (Deloitte, 2017). Kral (2014) states that people might utilise these options less in future as there is evidence of how increased access to Internet-enabled phones and mobile messaging applications disrupts traditional communication methods and patterns even among people in marginalised communities (Shklovski, Kiesler & Kraut, 2006).

There has been increased engagement with social media in South Africa, including in rural areas. According to the 2019 Digital Report, Facebook is the largest social media platform. The Pew Research Centers', South African Social Media Landscape Report (2018) indicates that 14 million South African users access social media platforms on their mobile phones. The Facebook-owned mobile messaging application, WhatsApp, is reported to be used by 90% of South African internet users, followed by Facebook Messenger and WeChat (Digital Report, 2019). Rosenfield, Sina, Sarne, Avidov and Kraus (2018) state that amongst other reasons, WhatsApp's popularity is based on its cost-effectiveness as the voice calling function is noted to be substantially cheaper than standard voice calls (Steup, 2019). Furthermore, WhatsApp has a tight video compression which makes downloading videos for mobile phone users less expensive than other platforms such as YouTube. According to Minalla (2018:2), WhatsApp has opened up innovative opportunities for interaction and collaboration through voice messages and group chat functions.

1.2 Context

When the first South African democratic government was elected in 1994, rural development was identified as one of its priorities to ensure a better life for all citizens (Sibanda, 2009). The government promised to transform the livelihoods of citizens through high quality, effective and efficient services. In May 2018, the then South African Minister of Telecommunications

and Postal Services, Dr Cwele emphasised the government's plans to invest in ICT infrastructure for township² and rural access as well as for schools, e-government and health departments to realise the country's vision of a widespread broadband communication system by 2030 ("ICTs for socio-economic development", 2018). However, the continued underdevelopment remains a challenge in many rural areas in the country. The Eastern Cape Province, for instance, continues to have the highest levels of poverty, poorest infrastructure and highest unemployment rate (Ilimalabantu, 2010; Makofane & Gray, 2007).

The present study was conducted in Dwesa, a rural community on the Wild Coast of the Eastern Cape Province. The area is representative of many rural areas in South Africa as it is characterised by endemic poverty, a lack of services and infrastructure, strong family and communal ties as well as high unemployment rates (see Timmermans, 2004). There is a population of approximately 20 000 people living in more than 2 000 households. Most of the residents in the community live in a cluster of villages with very low-density housing (Pade-Khene Palmer & Kavhai, 2010). The households in the area rely predominantly on subsistence farming, government grants or remittances by family members working in urban areas. As a significant percentage of the male population continue to migrate to cities in search of jobs, the local population is mostly made up of women, elderly citizens and young children (Timmermans, 2004). The Dwesa community members spend a significant portion of their minimal income on transport as the closest town is Willowvale, about 40 kilometres away. They also go to iDutywa, a town which is 30 kilometres further for other shopping and general business needs because there are more services and 'advanced' shops (Cristoferi, 2014). According to Pade-Khene et al. (2010), many of the people in the area are illiterate, and the only language spoken by most is IsiXhosa.

The area has been the site of an ICT4D project, the Siyakhula Living Lab (SLL) for over 14 years. This project was initiated by Rhodes University and Fort Hare and was aimed at developing and field-testing a sample of a cost-effective and integrated telecommunication platform to address local challenges (Cristoferi, 2014; Pade-Khene et al., 2010). ICT platforms and infrastructure were deployed to schools because they are central in location, easily accessible

2

Township – predominantly refers to an underdeveloped residential area, formerly designated for black occupation by apartheid legislation (Pernegger and Godehart, 2007).

to the general community and provide access to the internet (Dalvit, 2015). However, free Wi-Fi connectivity is limited to the premises of the hosting schools and is constrained by a monthly cap of V-SAT connection and speed (Dalvit, Siebörger et al. & Terzoli, 2012). I have been part of a group of researchers from Rhodes University that assists in digital technology training for the community members for over two years. The training workshops support the community members in making use of computers, connectivity and mobile phones as well as in learning about other opportunities these resources can provide. A considerable body of research on the impact of ICT's has been conducted in Dwesa (see Buthelezi, 2015; Collophen, 2015; Dalvit & Cristoferi, 2015; Cristoferi & Dalvit, 2013; Kavhai, 2010). These studies have established that mobile phone use and the Internet have grown significantly over the years in the area. A significant portion of the population connects to the Internet and accesses social networking sites such as Facebook and WhatsApp on their mobile phones (Chatikobo 2019; Collophen 2015, Buthelezi, 2015). A previous study I conducted in the area suggests that mobile phones facilitate communication and improve close ties (Buthelezi, 2015). The present study further explores the interplay between mobile media and the cultivation of different forms of social capital. This focus offers some insights and an innovative take on mobile phone use and its contribution to development in rural areas.

1.3 Research aims and questions

The research aim of this study is to understand how mobile phones mediate different forms of social capital in Dwesa by focusing on three key questions:

1. How do mobile phones mediate bonding social capital in Dwesa?
2. How do mobile phones mediate bridging social capital in Dwesa?
3. How do mobile phones mediate linking social capital in Dwesa?

The present research employed a qualitative methodology with purposefully selected mobile phone users from the Dwesa community. I interviewed a total of 17 participants. Most interviews were conducted face-to-face in Dwesa, while I conducted others online using Facebook Messenger. I analysed the data collected thematically, and I believe these techniques have enabled a nuanced and in-depth account.

1.4 Thesis outline

This thesis consists of six chapters. In this first chapter, I provide an introduction to the study by discussing the context of mobile penetration in Africa and the potential role of mobile phones in enabling development in rural communities. I provide an overview of the area of study through discussing its geographic setting, internet and mobile penetration, demographic and socio-economic context, the SLL project and mention some findings from previous research. I then provide a brief outline of the research aims, questions that underpin the study and a short description of the research methods used.

In Chapter Two, I review the relevant literature on ICT4D. I begin by unpacking the complexities of the concept of development and the potential of ICT, particularly mobile phones, in the development of rural African communities. I further provide a discussion of digital inequalities by differentiating between three levels of the digital divide. Lastly, I mention examples of the impact of mobile phones in the African context concerning the economic, political and social spheres.

In Chapter Three, I review the theoretical framework underpinning this study. I introduce the concept of social capital by providing a discussion of the various key definitions and highlight their importance to the study. I then differentiate between three forms of social capital, bonding, bridging and linking and introduce the concept of digital capital. I lastly discuss dimensions which are useful for analysing social capital in rural communities and outline the three which are employed in this study.

In Chapter Four, I discuss how this study is situated within the social constructivist paradigm and justify the use of semi-structured interviews and the selection of research participants. I then describe how data from the field was analysed using thematic content analysis to reveal themes from interviews, which enable the answering of the research question. I conclude with the ethical considerations and limitations of the study.

In Chapter Five, I present the findings of the study. I outline the beneficial uses of mobile media in various networks concerning three dimensions of social capital such as trust and solidarity, social cohesion and inclusion as well as collective action and empowerment. In this

analysis, I focus on the findings based on the individual and organisational ties identified in the area.

In Chapter Six, I present the key findings concerning how mobile phones mediate forms of bonding, bridging and linking social capital. I conclude with some reflections on the research process and formulate some recommendations for future research.

CHAPTER 2: LITERATURE REVIEW

In this chapter, I explore relevant literature on ICT, with a particular focus on mobile media in Africa. I begin with a discussion of the complexities of the development concept, more specifically, how its interpretation has evolved from an economic to a holistic one. The discussion on development includes the role of ICT and mobile phones in the development of marginalised communities. I discuss digital inequalities by looking at the differences in the access, use and benefits of digital technologies. I end with a discussion of mobile media in the African context by providing examples of its impact in three spheres, i.e. economic, political and social.

2.1 ICT for Development

A considerable amount of literature has been published on the concept of development. The link between development and economic growth became increasingly significant after the Second World War, as many countries that were devastated by the war started the process of rebuilding (Rapley, 2007). During this period, development was predominantly studied and measured by economic standards, including the production of goods and the accumulation of money (Rapley, 2007). In the 1960s, Western countries proposed replicating their ‘development’ policies in newly independent countries in Africa, Asia and Latin America, with the aim to move the newly decolonised nations towards modernisation (Coetzee, 2001). Modernisation was characterised by tangible outcomes, including the broadening of the formal and informal trade sectors, the improvement of infrastructure and technology and the expansion of markets and business interests (Coetzee, 2001). However, the under-developed countries could not implement extensive economic shifts, which led to the failure of these market-led approaches. These failures stimulated a broadened definition of development, and as a result of this new understanding, the implementation of alternative, more suitable methods.

The widespread euphoria around the potential impact of ICT on the socio-economic upliftment of marginalised communities started in the mid -1990s (Fanta & Upadhyay, 2009). As Gelb, Maru, Brodgen, Dodsworth, Samii & Pesce (2008) observe, effective adoption of ICT’s has a good record in many parts of the world and has shown how digital technologies can assist in the attainment of significant social, economic, environmental and political benefits. The United Nations Development Programmes (UNDP) Human Development Report (2001) expressed

confidence that ICTs will lead to increased knowledge, which will assist people in leading more productive and healthy lives. A technologically deterministic view often informs the assumption that ICTs have a positive impact on communities in which they are introduced. Technological determinism is based on the theory of cause and effect that suggests that technologies automatically shape the social organisation and culture of the societies in which they are introduced (Burgess, 2005). Chandler's (2002) criticism of technological determinism rests on the argument that there are other factors besides technology that shape societies, including general attitudes, interests and geographical access. De la Cruz Paragas and Lin (2016:72) assert that people are not just passive consumers, but also producers of media “who [are in] control [of], rather than [...] affected upon by media in a multiple and constantly negotiated reality”. The social constructivist paradigm suggests that humans shape and control technologies and emphasise the need to explore how these can be used to achieve practical ends (Giotto, 2018; Kline, 2015; Heeks, 2002). Gurstein (2003:10) states that the effective use of ICTs depends on how well people integrate ICTs into their social, productive and cultural activities. According to Gigler (2012), the social constructivist view contributes to a better understanding of how ICTs can be useful and usable for members of marginalised groups (Gigler, 2012).

The global spread and adoption of mobile phones have surpassed all other digital technologies such as personal computers and the Internet (Ling & Donner, 2009). The mobile phone has thus become a feature of everyday life in most rural communities around the world. In line with the social constructivist perspective, the rise of mobile phone usage has resulted in much attention being paid to how people adopt, use and find their own uses for new technologies while shaping them to fit their own homes, communities, activities, values etc. (Bar, Weber & Pisani, 2015, Global Web Index, 2020). The process of reconfiguring technologies such as mobile phones to suit one's own needs is referred to as appropriation and it:

has shown how ordinary people demonstrate creative abilities to invent on an everyday basis... They make resourceful use of makeshift solutions and short cuts in order to create a personal way into the world created by the manufacturers and to appropriate the technologies for their own use (Nkwi, 2018:11).

For example, Sey (2011) and Donner (2008) argue how calling the intended user and intentionally hanging up before they answer, which is referred to as ‘beeping’ is an alternative way of requesting someone to call you and thus a form of appropriation.

Rapid mobile phone adoption has created optimism around the role of technology in development in many parts of the world (Aker & Mbiti, 2009). Studies in many developing countries have observed the potential role of mobile phones in improving education, public health, governance, participation, access to markets and creativity (Rashid & Elder, 2009). Numerous studies have highlighted uses of mobile phones based on three developmental spheres; the economic, political and social. According to Waverman, Meschi & Fuss (2005), mobile flexibility and effectiveness in production, management and distribution process result in a direct impact that accelerates economic opportunities and promotes the standard of living in communities. A significant body of research shows how the reduction of the cost of communication enabled by mobile phones brings about economic benefits, especially for those in marginalised communities (Aker and Mbiti, 2009; Aker, 2008; Bhatia et al., 2008).

Moreover, mobile phones can enhance political participation through increased access to information. This results in the increased transparency of the political system as well as strengthened political communication and engagement among the citizens (Paré & Smeltzer, 2013). E-government is one of the examples of enabling tools for such political interventions. Other scholars state that the nature of mobile phones and the Internet, i.e. multi-way communication, low cost, decentralisation etc. have the potential to foster political activism and mobilisation (Castells, 2002; Shirky, 2011). Mobile phones also allow the creation of new forms of networks that are not limited to time and distance. Some of the relationships facilitated and enhanced by mobile technologies promote the growth of culture and societal ties and result in social cohesiveness, which is pivotal for sustainable development in communities (Bhavnani, 2008; Mansell, Steinmueller & DeMontalvo 1999).

Several studies provide pessimistic views, raising critical concerns and assessments regarding the role of ICT in socio-economic development (Dey & Ali, 2016; Mariscal, 2005). Concerning economic gains, there is limited evidence that shows that mobile phone use translates to macroeconomic improvements in markets (Hosman & Fife, 2012). Hosman & Fife (2012:13) argue that development agencies and donors “jump on the information technology bandwagon” without adequately assessing its effects within the particular contexts. Mobile phone communication and services are still out of reach for many poor people and therefore cannot replace investments in public goods such as education, power, roads, water and other

essential infrastructure which can assist communities to work towards economic development. Similarly, concerning the political dimension of people's wellbeing, Gigler (2011) maintains that technology on its own cannot overcome a lack of participation in the political system within rural communities (Gigler, 2011:22). Other scholars such as Nam, (2012), Norris (2005) and Norris and Curtice (2007) likewise assert that the Internet, in particular, replicates and reinforces the political activism of those who are already active offline. Ling (2010) argues that despite the change in patterns of interactions brought about by new technologies, online interactions are still firmly based on maintaining contact with already existing social relations. Some of the scholars who are concerned with the negative impact of ICT on the social aspects of interactions argue that they create a social disconnect as people tend to become introverted and individualistic (Orchard & Fullwood, 2010). Other scholars assert that ICTs reduce face-to-face interactions (Ling & Donner, 2009), thus strengthening already existing bonds and limiting the formation of new ones. Other prevalent debates on these technologies include the disruption of the public sphere, surveillance issues, various types of power disruptions and destruction or reframing of languages (Ling & Donner, 2009).

2.2 Digital inequalities

Issues such as the lack of Internet access in households, language barriers and the costs of technologies continue to leave Africans lagging behind the global average. The digital divide is the term that commonly refers to the difference between those who have and those who do not have access to new media technologies (Tsatsou, 2011; Hargittai, 2003). Differences in physical access to the technology can be referred to as the first-level digital divide (Hargittai, 2003). According to an analysis in the 2016 World Development Report, the size of the population without access to a high-speed internet connection in the year 2016 was approximately four billion. In Africa, there are many areas where the ICT sector still lags behind expectations (Naito, Baba, Kashima, Takaki & Funo 2018). In South Africa, the difference in Internet penetration is based on the income inequality as only 27% of those earning below R2 500 as opposed to over 82% of those who earn more than R30 000 a month use the internet. The Eastern Cape Province has the lowest internet penetration, at only 25% (Goldstuck, 2017, in Chatikobo, 2019). On the contrary, Colloppen (2015) found a high frequency of internet-enabled mobile phone use in the area under study, Dwesa. A focus on physical access is useful at the stage when ICT is still gradually diffusing within a particular context (Ussher, 2005).

Scholars realise that the widespread diffusion of technologies, such as mobile phones do not automatically result in the closing of the divide and significant' improvements in communities. Access to the Internet does not mean that individuals can use it the same way and equally enjoy its potential benefits (Ragnedda, 2018; Hargittai, 2003). The concept of the digital divide has developed over the years to include more than just the physical access to the technology but also include the support, motivation and technical skills to use the technologies (second-level digital divide) and the benefits accrued online (third-level digital divide) (Ragnedda, 2018; van Deursen & van Dijk, 2014; DiMaggio & Hargittai, 2001). The second-level digital divide refers to the inequalities in people's online experiences and their ability to locate content online (Hargittai, 2003; Ragnedda, 2018). Scholars argue that the effective usage of the Internet is stratified along the lines of inequalities which are already existent that include socioeconomic status, race, gender and education (see Campos-Castillo, 2015; Jones, Johnson Yale, Millermaier & Perez, 2009). According to a Violence Prevention through Urban Upgrading (VPPU) (2019) report, people who earn a higher income have access to better education and thus improved digital literacy. Hargittai's (2003) research on the usage of the Internet found that inequalities also influence users in terms of motivation, skills and purpose of use. For example, young people are more comfortable with the Internet and finding content online than their older counterparts. Dalvit and Miya (2018) found that for women in Dwesa, digital literacy varies according to different aspects. It is acquired through social interaction with family and friends based on what the individual usages of the internet are.

The third level digital divide places "emphasis on social implications and inequalities in the tangible outcomes gained from different forms of access and usage of the Internet" (Ragnedda & Kreitem, 2018). Yu, Ndumu, Mon and Fan (2018) argue that an essential factor in bridging the digital divide should concern the third level and how individuals and communities use the technologies for the betterment of their quality of life. Yu (2018) asserts that the digital skills on the third level can only be fully developed if they are properly mastered on the first and second levels. According to Van Deursen and Helsper (2015) individuals with a higher social status use the Internet for several important domains and benefit more than those who are poor. However, Ragnedda (2019:9), further notes that this does not mean we are living in a closed society where any forms of social mobility -namely the ability for people to improve their life conditions -are prevented. ICTs, and the Internet in particular, may offer concrete help in

stimulating such mobility”. The following section provides some examples of mobile phones as a feature of everyday life and enabling socio-economic development in various African regions by explicitly focusing on the benefits in three spheres; the economic, the political and the social.

2.3 Benefits of mobile technology in African marginalised areas

A growing body of literature has investigated the impact and potential uses of mobile phones for the acceleration of activities and economic development of individuals and communities (Dey & Ali, 2016; Donner, 2008; Donner & Escobari, 2009). Small businesses are identified as a crucial source of income and labour for many African rural communities. Scholars argue that many small businesses across Africa rely on mobile phones for survival and enhancement of entrepreneurship (Ussher, 2015; Sey, 2011). Mobile phones provide traders with broader and more reliable market and trade information and opportunities, which they would otherwise have missed (Lyimo-Macha et al., 2010; Bhatia et al., 2008). This includes, for example, information on the costs of products at different markets as well as coordinating sales and transportation with suppliers efficiently (Bhatia et al., 2008). Mobile phone use has improved the routine of women traders in Accra, Ghana, in numerous ways by improving the coordination of micro-trading activities, reductions of transactional and transportation costs and by strengthening relationships and trust within trading networks (Ussher, 2015:3).

Mobile phones additionally contribute towards saving money by providing options to substitute for unproductive travel for services that can be accessed on the mobile phone (Oladele, 2015; Baro & Endouware, 2013; Aker and Mbiti, 2009; Bhatia et al., 2008). Mobile money enables money transfers for people in rural areas who previously had to travel long distances to deliver cash in person (Batista & Vicente, 2014). Ahonen (2008) argues that mobile phones are the first media that provides the possibility of money-related services. M-Pesa in Kenya is often cited as a successful example of the use of mobile phones to “bank the unbanked” (Lawack-Davids, 2012:34). According to Lawack-Davids (2012), in South Africa, the penetration model of mobile banking and mobile money services is increasing as commercial banks, supermarkets and telecommunications service providers make these services available. The potential for mobile phones to contribute to socio-economic inclusion and development is not limited to mobile money but extends to a range of other activities such as access to services, online

purchases, airtime transfers and bank notifications (Lawack-Davids, 2012). Research conducted in Dwesa in 2015 indicates that many community members receive money from relatives via mobile services, which are mostly linked to the local banks and supermarkets (Buthelezi, 2015). Other findings in the area showed that there is widespread use of Unstructured Supplementary Service Data (USSD) codes to check account balances, as well as buying electricity and airtime (Buthelezi, 2015). Community members who owned mobile phones accessed their South Africa Social Security Agency (SASSA) accounts on their mobile devices to purchase airtime and electricity using a service called *Umoya Manje* that uses USSD codes (Buthelezi, 2015).

Accessing information that leads to employment and other opportunities on mobile phones is another example of potential economic benefits for people in African rural areas (Bhatia et al., 2008). People get access to online job vacancies they would not otherwise have as most companies increasingly advertise jobs and other opportunities on online platforms such as websites (Goldstuck, 2017). Such information is accessed, communicated and shared easily within one's networks via the mobile phone (Eriksson, 2008). A mobile phone usage study in rural Kenya indicated that job seekers could access job information with a small subscription fee through a job service called "Kazi560". "Kazi" means a job in Swahili. Anyone looking for job opportunities could sign up, and the information was made available through SMS alerts (Eriksson, 2008). Buthelezi and Dalvit (2019) note that in Dwesa, many people use social media platforms such as Facebook and WhatsApp to access and share job information. Chatikobo and Dalvit (2020) mention that young people received access to job information and were subsequently employed in skilled to semi-skilled positions in public offices and non-governmental organisations through receiving job information from local government officers. The information is communicated and shared mostly on WhatsApp.

Some research in Africa provides evidence that the diffusion of mobile technologies has a significant impact on the political sphere as they enable the spread of political information, thus resulting in improved political awareness and participation (Paré & Smeltzer, 2013; Pierskalla & Hollenbach, 2013). The use of smartphones especially enables faster and more frequent access to political information such as news, campaigns and events which has been noted to be efficient during election periods in some African regions (Pierskalla & Hollenbach, 2013). Pierskalla (2013) further asserts that social media was the key tool used by the

presidential candidates in attempts to reach out to young voters during the 2013 general elections in Kenya. During these elections, the electoral commission and local media also used SMS's to distribute polling news (Kalondo, 2005). Similarly, the Independent Electoral Commission (IEC) used social media platforms, Facebook and Twitter as part of their registration drive for the 2014 South African national elections. This resulted in the page receiving over 60 000 followers and active engagement ahead of the voter registration drive. Mobile devices have also been used in many instances as tools to combat election fraud. Zuckerman (2004) maintains that the use of mobile phones for reporting fraud contributed to elections in Ghana going considerably smoother in 2004 than the previous elections. The example of 'Ushahidi', a web platform that originated in Kenya in response to the 2008 presidential elections and ensuing violence, highlights the vital role mobile phones in delivering information in real-time in a crisis (Mkinen & Kuiru, 2008). *Ushahidi* enabled citizens across the country to share live information on incidents of violence and peace efforts on a website. According to the OECD Report (2011), the platform was used to collect information about urgent rescue needs such as food, water and security. The information was then made available on maps so the nearby rescue and relief teams could access it.

There is significant research that highlights the effective role of mobile technologies for collective action such as organising and mobilising protestors and social movements at short notice (see Cammaerts & Van Audenhove, 2005). Chiumbu's (2012) study on mobile phone use for mobilisation by the Western Cape Anti-Eviction Campaign shows that mobile phones helped in improving efficiency in the organisation of the campaign. The members of the movement accessed the Internet and strengthened their collective identity. Mobile phone functions, especially on smartphones, facilitate new types of information such as video journalism and blogging which allows the bypassing of mainstream media to deliver messages and display actions effectively. The UNDP's research by Cox Marcellino, Bellasio, Ward, Galai, Meranto and Paoli (2008) highlights the role of social media as tools for propaganda to publicise killings and attacks in many African countries. These tools were used, for example, in the kidnapping of schoolgirls by Boko Haram, which sparked the international media campaign #BringBackOurGirls. However, scholars also identify mobile phones and social media as a double-edged sword as a lot of research places these technologies at the frontline of radicalisation (Miranville, 2018).

Lastly, mobile phones allow people to create new forms of social networks that are not limited to time and distance in all the domains of life (Mansell et al., 1999). In addition to maintaining social contact, mobile phones essentially allow for what Ling (2008) calls micro-coordination of daily lives. The significant reduction of the ‘distance’ between friends, relatives, colleagues, community members, community leaders and the relevant stakeholders such as municipal representatives enabled by mobiles makes the coordination of daily lives and institutions of especially rural community dwellers easier and more efficient. People can coordinate different aspects of their daily lives simultaneously. For example, Buthelezi and Dalvit (2019) state that in Dwesa, mobile phones enable the micro-coordination of stokvels through the effective scheduling of meetings and receiving financial information.

Alam and Mcloughlin (2010) are of the view that when people are connected online, they are more relevant as a global citizen. Social media is the common pathway to gaining this global citizenship for many people in African countries. Research points out that despite the digital divide, the majority of citizens in rural communities use their mobile phones to access social media (Greenwood, Perrin & Duggan, 2016). Interestingly, Goldstuck (2018) argues that in South Africa, the socio-economic level does not seem to affect the use of Facebook as the penetration is similar across all levels. Shava and Chinyamurindi (2018) maintain that social media is not only a common communication channel between friends and family, but it also provides new avenues for knowledge sharing, especially among the youth. A study conducted by Shava and Chinyamurindi (2018), among the youth in a rural community in the Eastern Cape Province of South Africa found that there is a positive correlation between the usage of Facebook and knowledge sharing. DeAndrea (2012) in Shava and Chinyamurindi (2018:9) argues that “Facebook offers the youth a high-interaction platform where they can easily share their learning experiences and maintain relationships” with an opportunity to connect further with other people for social and academic-related purposes.

2.4 Conclusion

In this chapter, I outlined the literature on ICT with a particular focus on mobile phones and their contribution to the socio-economic development of communities. In the discussion, I first highlighted the complexities of the concept of development and how it has evolved from being economic-centred to embodying the idea of ensuring human-centred development and building

sustainable communities. I then outline the perceived role of ICT's, focusing on mobile phones in enabling development. In this discussion, I highlight economic, political and social elements as crucial factors of the relationship between ICT and development in communities.

Notwithstanding the potential advantages offered by ICT's in rural communities, many in such communities lag in terms of ICT access, use and benefits. I then discussed digital inequalities by outlining the different levels of the digital divide. I lastly explored some examples of the benefits of mobile phone use in various African regions in the economic, political and social spheres.

CHAPTER 3: THEORETICAL FRAMEWORK

In this chapter, I outline the theoretical framework underpinning the study. I introduce the concept of social capital by discussing the contributions of different scholars and highlight their importance for this study. I consider the different types of social capital; bonding, bridging and linking and introduce the concept of digital capital. Lastly, I discuss the dimensions of social capital, which are useful for analysing the role of mobile phones, especially in marginalised communities.

3.1 Social capital

The concept of social capital is significant across various fields of study, and it is one of the most influential pathways to understanding the contemporary world. A definition of social capital which captures its essence across disciplines highlights the interconnectedness of relationships and the value of social networks for mutual benefits (Franklin, 2003). Godfrey (2014:65) summarises this in his brief definition as “what you can get by virtue of who you know”. Social capital is not the property of individuals or the groups to which they belong, but it emerges from the networks that individuals or groups maintain (Moore, 2010).

One of the first scholars to popularise the concept of social capital was Bourdieu (1986), who argues that the term ‘capital’ should not be restricted to material and economic assets but should encompass different forms of social exchanges and profits. Bourdieu (1986) argues that various kinds of capital can be considered as a resource which might be useful for acquiring or maintaining a good status. He differentiates between three types of generic capital; economic, cultural and social (Bourdieu, 1986). Economic capital refers to monetary and tangible resources. In addition to economic capital, there is cultural capital which is the non – financial resources acquired through socialisation (Bourdieu in Godfrey, 2014). These resources include long-standing habits, value, culture, and norms. Lastly, Bourdieu identifies social capital as “the aggregate of the actual or potential resources that accrue to an individual or group by belonging to a durable network of more or less institutionalised relationships of mutual acquaintance and recognition” (Bourdieu & Wacquant, 1992:119). Bourdieu (1986) centralises the role of social relationships because they allow people to gain access to the resources which other people within their networks have. His conceptualisation of social capital sees it as interlinked with the economic and cultural capital to excel politically and financially. Although

Bourdieu's conceptual insight remains useful, his perception of social capital only views its value as far as it allows getting ahead or maintaining superiority, thus reproducing inequalities (Field, 2003). Bourdieu is therefore criticised for his limited conceptualisation, which assumes that the benefits of social capital are only for the elite.

Unlike Bourdieu, Putnam's (1993) conceptualisation of social capital does not limit it to the elite. According to Putnam (1993), social capital plays a significant role in increasing individual benefits through cooperation and the resolution of common problems within communities. He popularised the concept of social capital through his work, *Bowling Alone: America's Declining Social Capital* (1995) and *Making Democracy Work: Civic Traditions in Modern Italy* (1993). His work explores democracy issues in terms of social capital. He compares the southern and northern regions of Italy to uncover the disparities of regional governments and why democratic processes were more successful in the regions of the north. His study revealed that wide variations in the performance of these governments were related to the nature of associational life in each area. A critical factor in the effectiveness of a region was the strength of the associational life and level of trust between strangers (Putnam, 1993). Putnam maintains that a wide range of benefits is dependent on different aspects of social networks which are trust, social norms and obligations and the voluntary associations. He regards social capital as a public good and critical component to building and maintaining democratic societies. According to Putnam (2001:19), civic virtue is most powerful when embedded in reciprocal social relations.

Another scholar who contributed to social capital literature is Coleman (1988), who defines it as the resources and benefits based on cooperation which are available in good and valuable relations or networks. According to Coleman (1990), anyone can possess social capital, and it includes all factors which are rooted in relationships which can yield benefits to individuals. For him, social capital is defined by its function because it is made up of a variety of different entities which have two characteristics in common, consisting of an aspect of social structure and facilitating actions for the individuals within that structure (Coleman, 1990). His definition regards social capital as a resource and public good which has the potential to benefit all the individuals who are part of a structure (Portes, 1998; Coleman, 1990). Although most of the research on social capital focuses on its multidimensionality and benefits, the contributors differ in their treatment of the concept. While Putnam focuses on benefits at the community level, Bourdieu and Coleman provide conceptualisation at the individual level. In the current

study, contributions from all the scholars mentioned above are relevant at different points. As it is discussed in the following section, Putnam's and Coleman's contribution to social capital is important in discussions of its relevance to communities and development.

Putnam and Coleman highlight social networks as essential resources which can be used by individuals and communities for eradicating poverty and vulnerabilities. The importance of social networks is the role they play in the functioning of communities (Durkheim, 1933). He asserts that society is comprised of members who are connected through ties which are extended far beyond the initial encounter and exchange (Durkheim, 1933). Social capital can only be employed beneficially and be generated in the presence of relationships between people, institutions, structures, and organisations in communities (Boeck & Fleming, 2005:262). In community development literature, social capital is usually identified as a fundamental factor which contributes towards improved health, employment, reduction of crime, economic development and high quality of life (Groups, 2007; Putnam, 2001; Sabatini, 2008). Putnam's work highlights that although financial capital and policy frameworks are part of the solutions in development, the social organisation and networks are an essential component of sustainable development. Godfrey (2014) moreover asserts that social capital helps the poor instrumentally through the enhancement of the quality and quantity of information, amplification of influence and valuable resources. He identifies four main benefits to people who are trying to develop and work themselves out of poverty; information, influence, solidarity, and resources (Godfrey, 2014).

Firstly, concerning information, Godfrey (2014) asserts that relationships with other people help one to tap into information flows they would not typically have access to, allowing for specific information about opportunities which are relevant to them "rather than general statements and prescriptions in more formal channels" (Godfrey, 2014:72). Secondly, influence on outcomes such as access to valuable resources, health, education, and employment, is dependent on the extent to which individuals either contribute to or experience social networks, trust, or civic participation (Godfrey, 2014). Thirdly, Godfrey (2014) asserts that the solidarity which mainly comes from close social networks such as family and friends allows individuals to face difficult challenges. These networks and the support they provide, help communities to see the value of their goals and promote working together towards achieving them. Lastly, he argues that social capital expands the number and quality of resources available to poor people as they gain access to otherwise expensive or unavailable resources (Godfrey, 2014).

Bourdieu's conceptualisation on the role of social capital in reproducing social structures and inequalities online will be reflected on in the discussion of digital capital.

3.2 Digital technology and social capital

Digital capital is a new concept that is useful in providing insights into the role played by information technologies on societies and everyday life (Ragnedda, 2018; Roberts & Townsend, 2016). Ragnedda (2018:2) defines digital capital as “a bridge capital between online and offline life chances that allows previous capitals to be efficiently exploited on in the digital realm, but also fosters them, reproducing profits into the offline realm”. People's offline activities which are shaped by three forms of capital (i.e. economic, cultural, social) influence the nature of their online activities (i.e. how much time they spend, the skills acquired, the type of information they get), which determines the kinds of benefits and resources they get in return (Ragnedda, 2018). In studies related to development, Dudwick et al. (2006) argue that it is crucial to explore the ways and means by which individuals and communities receive and share information regarding community issues, markets and public services and explore the extent of access to communications infrastructure. The returning benefits of digital capital can be understood by examining the uses of mobile phone communication and information and how they influence an individual's social networks and local communities. (Dudwick et al., 2006). There is significant evidence from previous research which shows that ICT's, particularly mobile phones, benefits individuals by strengthening their existing ties and generating new ones (Ling, 2010; Sinha, 2005). In everyday contexts, people use various communication services on their mobile for interacting with different people, e.g. friends, family members or strangers, which makes it possible for close communication to be retained while meeting the increased demands of mobility (Zinnbauer, 2007). Johnston (2014) argues that on social networking sites such as Facebook, people are mainly connected with their existing offline contacts, thus reinforcing these relationships with close ties even further.

Young people in African rural areas tend to use phones in exploratory ways to establish new connections with people outside their social circle (De Bruijn, Nyamnjoh and Angwafo; 2010; see also Dalvit 2015). Hampton, Lee and Her (2011) acknowledge that although most mobile communication occurs between a small number of “semi-closed” circles of friends and families, being part of these circles opens up chances to engage with other people outside of

them. For example, users of Facebook start new relationships with ‘friends of friends’, thus generating social capital with the newly connected individuals as they get access to bigger networks which can result in better access to useful information such as job opportunities (Zinnbauer, 2007). Mobile phone use further allows individuals who share the same interests to build virtual communities around those interests (Ling, 2010). Communication and content sharing on the online platforms have become relatively efficient and more accessible with the availability of emails, online forums, blogs and social media platforms (Ling & Donner, 2009; Eriksen 2000). The growth of social networking sites makes it possible to connect people who share political, economic and geographic interests (Ling & Donner, 2009). While online communities based on common interests assist in generating strong ties, they also foster collective action and civic engagement (Ling & Donner, 2009). Hampton et al. (2011) found that there is a mediated relationship between the diversity of a network and the use of communication technologies, especially mobile phones. In their study, they found evidence that users of mobile communication technology participated in activities which predicted the diversity of social networks such as traditional community activities, extra-curricular sporting activities, visiting semi-public places and volunteering. Strongly connected communities have a better chance of influencing governments’ efficiency (Harande, 2011). The relationship between social networks and ICT reflects Putnam’s conceptualisation, placing digital capital at the centre of collective action within communities.

Concerning information seeking and sharing patterns amongst individuals, Johnson (2005) is of the view that people make strategic choices about whom and where to get information from online. Johnson (2005) argues that three factors determine who the information seeker chooses to consult. Firstly, information-seeking patterns depend on the strength of the relationship. Secondly, the kind of information required and lastly, the power dynamics within the network, i.e., the hierarchical positions of the information seeker and source. Granovetter (1983) uses a similar theory to explain that access to the information within a network is largely dependent on where one is located in the social structure and the type of relationship one has with the individual in possession of the required information. This theory is called the network theory and explains how the success in acquiring information is based on the quality of social resources available to them through their networks (Granovetter, 1983). This means that mobile phones can potentially reconfigure local power dynamics, e.g. enabling connected people to become information hubs for others in the community. This reflects one of the critiques of Bourdieu’s view as digital capital, in this case, may reproduce the offline structures

by privileging the already privileged. A positive interrelation between digital and social capital potentially results in the improvement of citizens' life chances (Ragnedda, 2018). This positive outcome is based on the idea that people who acquire virtual social capital are likely to transfer it into the offline realm by connecting high social networks and by implementing virtual activism effectively also in the offline realm Ragnedda (2018). Although digital capital is a relevant conceptual framework for understanding the link between online and offline activities, for this study, I will use the social capital framework as it is well-established and provides useful concepts for the analysis of a wide range of online interactions between participants.

3.3 Types of social capital

Woolcock (1998) identifies three forms of social capital; bonding, bridging and linking. Bonding social capital refers to social ties based on sharing similar demographic characteristics such as is the case among family members, relatives, neighbours and close friends. These relationships provide individuals with support and a sense of shared identity (Woolcock, 2001). Bonding social capital is created by a thick set of social relations, norms, and obligations which exist within an identifiable group. Individuals choose specific strong ties, such as marriage and friends. However, many such links are automatically selected for one through birth, ethnicity, hometown, religion, etc. (Godfrey, 2014). Strong ties help to define one's social identity and provide humans with a broad sense of meaning and belonging (Godfrey, 2014). "Strong ties create correspondingly strong obligations; what it means to be a son, for example, entails particular behavioural prescriptions, but also broad and expansive expectations that transcend time and location" (Godfrey, 2014:65). The use of the Internet and mobile phones reinforces relationships through regular communication and information sharing about useful information for individuals and communities. In a study conducted by Tsietsi (2013) in Dwesa, participants indicated they have strong kinship ties and often have relatives who migrated to the urban areas. In the area, family ties play a crucial role in securing employment at the nearby nature reserve (Fay, 2013). Kavhai (2010) and Cristoferi and Dalvit (2013) assert that mobile phones support the flow of remittances by maintaining contact with relatives who migrated to the cities. Previous research in Dwesa established close ties among family members, relatives who migrated to the cities and social networks in the community such as *stokvels*, burial societies and sports clubs (Timmermans, 2004; Tsietsi, 2013; Kavhai, 2010). Although the existing networks are useful in numerous ways to those who are part of them (Timmermans, 2004),

Pade-Khene et al. (2010) recommend that communities should be made aware that ICTs can be used alongside traditional communication channels in communities. They can help to connect individuals with others outside their communities.

Bridging social capital refers to social ties between groups which provide access to a diverse range of resources and facilitate cooperation. Bridging social capital is made up of weak ties which describe voluntary relationships with people from different social groups (Godfrey, 2014). Although such relations lack the basis of common blood, background or belief, they exist because of common interest and the usefulness of the relationship to both parties” (Godfrey, 2014: 66). These ties feature thin interactions based on a certain exchange. The term bridging refers to the capability of networks to create bridges which connect the various sectors of society which would have otherwise never been in contact (Woolcock, 2001). Concerning Internet use and mobile phones, bridging social capital is highlighted in what Granovetter (1983) calls the “strength of weak ties”. He notes that the use of the Internet assists in getting access to more people, with whom one can form useful relations which contribute to access to both information and opportunities (Ragnedda and Ruiu, 2017).

Moreover, many opportunities are available online through the generation of new friendships that are made for example, from being members of particular groups of interests. The internet can be used to establish connections with members of other communities which can, in turn, facilitate participation in civic matters, awareness of job opportunities and finding relevant information. Miya, Dalvit & Kromberg (2014) note that in a rural area comparable to Dwesa in the Eastern Cape, young isiXhosa speakers use social media to get in contact with members of other language groups across South Africa, and as a result, they learn to interact in other languages. However, Ragnedda and Ruiu (2017:13) note that groups of interest which have memberships characterised by strong ties can become exclusive whereby other people who are not part of those networks cannot benefit from the opportunities available in them.

Linking social capital relates to the networks developed by individuals and groups in distinct levels of power that provide access to new and increased resources across platforms (Woolcock, 2001; Godfrey, 2014). As opposed to bridging social capital, which connects people with a social standing which is more or less equal, linking social capital connects people across power differentials. According to Grootaert, Narayan, Jones and Woolcock, (2004), developing countries and communities, access to linking social capital has been demonstrated as being central to well-being. Local leaders and intermediaries within communities play a

crucial role in facilitating connections between the community members and development assistance externally (Grootaert et al., 2004). These different forms of social capital can be used for purposes that hinder rather than help the well-being of individuals or communities (Portes, 1998; Woolcock, 1998). Where there are no forms of accountability and control, linking social capital can deviate from serving the public good and become a mechanism for political favouritism, insider-trading or nepotism (Portes, 1998).

Evidence from a study conducted by Zuwarimwe and Kirsten (2010) indicates that in a rural district in Zimbabwe, access to information is the most important function of linking social capital. Community members receive information on available financial resources, job opportunities, skills training and other empowering information from their linking capital relationships with government officials. Concerning entrepreneurs in the study, Zuwarimwe and Kirsten (2010:123) conclude that although bonding ties are essential for information sharing, “more diverse and richer knowledge stocks come from bridging and linking social networks”. On the other hand, Tsietsi (2013) established that in Dwesa, community members struggle to communicate and disseminate information from other sectors outside of their communities such as government and private organisations. Interactions facilitated by mobile phones between the Dwesa community members and the researchers of the Siyakhula Living Lab can be both examples of bridging and linking social capital, as although some of the researchers have the same background as community members, there is also a perceived higher status associated with being University students or staff.

3.4 Dimensions of social capital

The World Bank and academic scholars (Dudwick et al., 2006) carried out extensive work developing methods to measure social capital within communities. One of the methods adopted within the social sciences is the Integrated Questionnaire for the Measurement of Social Capital (SOCAPIQ) (Grootaert, Narayan, Jones and Woolcock, 2004). This tool uses six overlapping dimensions to understand the dynamics of social capital within communities: (1) groups and networks; (2) trust and solidarity; (3) collective action and cooperation; (4) information and communication; (5) social cohesion and inclusion; and (6) empowerment and political action. The present study selectively draws on these dimensions as an analytical framework. Due to the overlapping aspect of the dimensions mentioned above, I have

purposefully eliminated, reordered and merged them to have three working dimensions. Information and communication within and between groups and networks are, to some extent, the object of the present study. The dimensions, 1) collective action and cooperation and 2) empowerment and political action both relate to how people work with others on joint projects, towards a common goal and/or respond to a problem or crisis. I have thus eliminated the specific terms 'cooperation' and 'political action' and retained the more generic 'collective action' and 'empowerment' as one dimension. Based on this restructuring, the working dimensions of analysis in the present study are (1) trust and solidarity, (2) social cohesion and inclusion and (3) collective action and empowerment.

Trust and solidarity are considered vital elements of social capital. They relate to the extent to which people feel they can rely on relatives, neighbours, colleagues, acquaintances, key stakeholders, and sometimes even strangers for assistance (Frankin, 2004). Scholars who have contributed to social capital theory consider trust to be one of the most critical forces for integrating societies (Putnam, 1993; Coleman, 1988; Giddens, 1990). Franklin (2003:3) argues that:

the dynamics of individual and social lives are mediated through trust, a central factor in building cohesive and integrated communities, the 'glue' that holds society together. Its presence is seen to have a positive impact on the ways individuals act towards each other and its absence results in the breakdown of social and institutional relationships.

Putnam (1993, 2001) invokes the essential role of interpersonal trust for the survival of democracy. He argues that this dimension is crucial in developing and maintaining positive relationships, promoting cooperative behaviour and enhancing social productivity within communities. Trust allows the achievement of individual and collective goals that could not be attained by isolated individuals (Narayan, 2000). Trust reflects a necessary dependency based on already established contacts or familiar networks which have existed for extended periods. Individuals within groups cooperate effectively not only if they know each other, but also trust one another (Field, 2003). People naturally become hesitant and withhold participation if they fear being defrauded or exploited (Field, 2003). There is a close relationship between trust and solidarity as networks of relationships based on trust have more traits of solidarity which is highlighted by generosity; the values of reciprocity and mutual dependency. In the African context, the values which emphasise group solidarity are traditionally referred to as *ubuntu*, which supports the reciprocating of good deeds (Olivier et al., Kaseke & Mpedi, 2008).

“Rather than the survival of the fittest... the African worldview is tempered with the general guiding principle of [focusing on] the entire community's wellbeing and [maintaining] a sense of co-operation, interdependence and collective responsibility” (Cobbah, 1987:321). *Ubuntu* is based on the view that African communities are living networks of relations (Mukorombindo, 2010; Forster, 2007). In a study conducted amongst refugees in South Africa, Bacishoga, Hooper and Johnston (2016) note that there was greater trust among refugees who shared specific characteristics such as a common language or who came from the same country. These refugees communicated frequently with the individuals they trust and appeal to them if they need any form of assistance.

The dimension of social cohesion and inclusion refers explicitly to the connectedness of individuals in their various social groups and communities, and how this affirms their group identities. Here, the focus is on how social relationships can potentially include or exclude members of a community (Grootaert et al., 2004). Social cohesion and being part of a social network counteract isolation, the terrible feelings associated with, and experiences of poverty and other negative social problems within communities (Narayan et al., 2000). Social networks affirm a sense of identity and belonging for those living in degrading conditions. Social cohesion and inclusion in rural communities can be enhanced through activities which, for example, improve communication, increase solidarity and develop a sense of collective consciousness (Dudwick et al., 2006). Social bonds in communities are detectable in five dimensions: belonging, inclusion, participation, recognition and legitimacy. Cloete & Kotze (2009) suggest that social cohesion could best be pursued by enacting these dimensions. As many African countries value and embrace unity and affection (Buqa, 2015), one of the most significant benefits of mobile media in rural areas is removing the necessity for transportation to communicate and see loved ones, thus the improvement of social networks and increased social cohesion (Ling, 2008).

The dimension of collective action and empowerment focuses on collaborating with others on shared goals or joint projects and in response to problematic issues and crises in communities (Dudwick et al., 2006). Collective action strategies take various forms, such as resource mobilisation, coordination of activities and information sharing (Poteete & Ostrom, 2004). According to Ostrom (1990), collective action generates three interlinked forms of empowerment: economic, social and political. The economic type of collective action relates to overcoming inequity and power imbalances which prevent marginalised people from

increasing their productivity. Social empowerment refers to taking steps towards changing society. Political empowerment, on the other hand, speaks to influencing policy, making demands and accountability. According to Ostrom and Ahn (2003), these three forms are mutually reinforcing and allow people to move out of poverty through participating in growth processes, where some people are contributing and others benefitting. The empowerment aspect further explores the ability and capacity of networks to influence both local community issues and events, as well as broader political outcomes (Ostrom, 2009). Such advances and influences towards change can occur within smaller communities and associations or more comprehensive local, regional, or national levels (Dudwick et al., 2006). According to Ling (2004), mobile phones give rise to new forms of social organisation, networking and coordination as a direct and interpersonal tool for community ties and groups that are already existing and which work together towards a common goal, which aids in their collective action activities and empowerment.

3.5 Conclusion

In this chapter, I presented the theoretical framework which underpins the arguments developed in this thesis. I offer a discussion of the concept of social capital and its complex definition by outlining some key contributions from scholars, Bourdieu, Putnam and Coleman. These scholar's contribution is useful for understanding the critical role of social networks and relationships at the individual and community level. Drawing in part on the concept of digital capital, I discussed the relationship between social capital and mobile phones. I then distinguished between three types of social capital as identified by Woolcock; bonding, bridging and linking, which each emphasise the importance of networks in various levels for opportunities and support. Lastly, I presented three dimensions which are useful to understand and analyse the role of social capital in rural contexts, i.e. trust and solidarity, social cohesion and inclusion as well as collective action and empowerment.

CHAPTER 4: RESEARCH METHODOLOGY AND METHODS

In this chapter, I outline the methodology adopted in carrying out the study. I describe the research paradigm and methods used in gathering data. I also describe the techniques I used to select the participants and how I interpreted the data. I lastly outline the ethical considerations and limitations of the study.

4.1 Research paradigm

The present research was carried out as a qualitative study within an interpretive paradigm. According to Guba & Lincoln (1994), a paradigm refers to the established basic set of beliefs or worldview in a particular discipline that guides research. A paradigm offers a model framework for undertaking research. According to Kivunja & Kuyini (2017:2) “paradigms are thus important because they provide beliefs and dictates, which, for scholars in a particular discipline, influence what should be studied, how it should be studied, and how the results of the study should be interpreted”. According to Guba (1990), a research paradigm consists of three key elements that guide its underlying assumptions, norms and beliefs, i.e., epistemology, ontology, and methodology. Epistemology refers to how the researcher knows something or as McDonald’s (2011) puts it, “what counts as knowledge”. Ontology refers to the nature of being and existence of the ‘reality’ to be investigated (Guba, 1990). Lastly, methodology refers to how the researcher goes about finding out about the phenomenon of the study (Guba, 1990). Choosing a paradigm has methodological implications in relation to the research questions, selection of participants, data collection procedures as well as the analysis of data (Kivunja and Kuyini, 2017).

The two main paradigms within the social sciences are positivism and interpretivism. The positivist paradigm assumes that there is an objective reality that is quantified by ‘factual knowledge.’ (Babbie and Mouton, 2001). Such knowledge is based on “verifying (positivism) or falsifying (post-positivism) a priori hypotheses, most usefully formulated in mathematical formulas” (Guba and Lincoln, 1994:105). Positivism holds the view that the social world operates according to general laws. In research, positivists thus aim to develop social ‘facts’ and generalisations by establishing cause and effect relationships (Deacon, Pickering, Golding & Murdock, 1999). This point of view is contrary from that of interpretivism, which is based

on the understanding that the social world is made of the social meanings that its members use to account for it and constitute it (Deacon et al., 1999). As Cohen, Manion & Morrison (2007:44) explain that:

the central endeavour in the context of the interpretive paradigm is to understand the subjective world of human experience. To retain the integrity of the phenomena being investigated, efforts are made to get inside the person and to understand from within. The imposition of an external form of structure is resisted since this reflects the viewpoint of the observer as opposed to that of the actor directly involved.

Kivunja and Kuyini (2017) mention a few characteristics exhibited by the interpretive paradigm. Firstly, it is based on the view that context is vital in research as there are multiple realities. Secondly, it is based on the belief that cause and effect are mutually interdependent. Lastly, the interpretive paradigm emphasises the need to understand the individual as opposed to universal laws (Kivunja & Kuyini, 2017).

Within the positivist paradigm, the data gathered is quantitative, while the choice of the interpretive paradigm aligns with methods for qualitative data. The current study adopted qualitative methods to analyse talk, gesture and other social actions as units of analysis. Babbie and Mouton (2001:270) assert that qualitative research aims to study the actions of humans from their perspective, commonly referred to as the ‘emic’ perspective by anthropologists. According to Babbie and Mouton (2001), the ‘emic’ perspective is the insider's view of reality and is fundamental to understanding how people perceive the world around them. The primary goal of research using this approach is to describe and understand human behaviour (Babbie and Mouton, 2001). In taking this ‘emic’ approach, I put aside prior theories and assumptions about the relationship between mobile media and social capital and allowed themes, concepts and views to emerge. Through this form of enquiry, I will present in the Findings and Discussion chapters what Geertz (1973) calls ‘thick descriptions’ of analysis that go beyond “surface appearances to include the context, detail, emotion, and other webs of social relationships” (Geertz 1973 cited in Babbie and Mouton. 2001: 272).

4.2 Data collection methods

Participant observation, semi-structured interviews and focus group interviews are typically

used as methods to collect data in qualitative studies. I used individual semi-structured interviews in the present study. Interviews are powerful data collection tools that allow researchers to elicit narrative data and to investigate people's views in great depth. Neuman (2007: 74) defines an interview as an “extendable conversation between partners that aims at having ‘in-depth information’ about a specific topic or subject, and through which a phenomenon could be interpreted in terms of the meanings interviewees bring to it”. Byrne (2004) adds that qualitative interviews generally refer to ‘conversations with a purpose’. Interviews have the advantage of being flexible and allow the researcher to gain a better insight into the topic being explored (Byrne, 2004). As opposed to using focus group interviews, I chose to use individual interviews in this study due to the understanding that people have different phone uses and attitudes towards the technology and that these are not likely to generate the type of discussion which focus groups are particularly suitable to investigate. Despite the varying uses and attitudes, I wanted to get qualitative data that is comparable, hence the use of semi-structured interviews. Following the established practise in semi-structured interviews (Bernard, 1988), I developed and used an interview guide (Appendix A) of a list of questions to cover during each interview. The interview guide was used to keep the discussion within the focus of the topic. Although I followed the guide, in many instances, I adjusted my approach encouraging the participants to talk at some length, mostly about the subjects of interest that emerged during the conversation. Jensen (1982) states that semi-structured interviews are a familiar form of social interaction that people identify with. These interviews, therefore, allow “considerable latitude for interviewees to express themselves freely” (Bryman 1988:46). This method enabled me to identify the various networks in the community according to each participant’s responses. The semi-structured nature of the interviews then allowed me to probe questions that were specific to each person’s identified networks and the uses of mobile media within these contexts which varied for each participant. I used the audio recording to allow me to concentrate on what the participants were saying; thus, I was able to respond and ask further questions rather than being slowed down by taking notes. Although I recorded all the interviews, I also made notes of the encounter after each interview. According to Byrne (2004), this can help remind the researcher of essential things when analysing the material.

Most of the questions I posed to the participants in this study were based on an individual’s use and experience and required information such as the uses of the mobile phone for information

gathering and sharing. However, for other participants, I extended the study to more personal applications and attitudes towards the mobile phone which some participants might not have been comfortable discussing around other participants. Examples of such discussions include money-related subjects such as monthly contributions to saving clubs. According to Taylor (2013), amongst death and health, personal finance is another topic that is regarded as challenging to discuss, especially in the presence of many people. Taking this into consideration, the choice of individual interviews was useful in avoiding the possible 'spiral of silence'. Boulderstone (2012: 71) state that:

The individual interview may thus be the best choice for a researcher who wishes to illuminate a sensitive issue, located beyond the discursive range of the socially acceptable or the politically correct – or an issue that is felt by the individual to be too sensitive to talk about in the presence of others, other than a researcher who grants the informant full anonymity.

Interesting information on the use of social media platforms emerged from the interviews. Of specific interest was the Facebook page for the youth of Mpume village. After being made aware of the page by the interview participants, I first joined the organisation's page as an observer. Although Facebook terms and rules for unrestricted pages suggests that content posted on the page is public and viewable by everyone, I made the administrators aware of my presence as an observer of the page by sending a message via Facebook Messenger. I observed group posts and interactions for over two years before writing this thesis. Over that period, I wrote to the page administrators and requested permission to interview them. Subsequently, I conducted individual interviews with two of the administrators via Facebook Messenger.

4.3 Selection of participants and size

In total, I interviewed 17 participants. The sampling strategy was purposive as the primary goal was to seek appropriate participants that would be able to give the necessary exploratory, definitive and detailed information to enable me to answer my research questions (Deacon et al.,1999). Two non-random sampling techniques to select the participants were used – convenience and snowball sampling. The reliance on different sampling procedures is common in qualitative studies that use mostly individual in-depth interviews (Deacon et al., 1999).

I used convenience sampling to target mostly community members who were interested in

mobile phones at the SLL ICT training workshops. According to Deacon et al. (1999) in convenience sampling, subjects are selected because of their convenient accessibility. The choice to interview participants from these workshops was fitting because most of them already had an interest in mobile literacy. Other potential participants were already available at the place of the workshops and had mobile phones, whether basic, feature or smartphone. One participant who did not have a mobile phone at the time of the interviews indicated that she had recently lost it. I included her as a research participant as she had a memory of her mobile phone uses, especially concerning the interests of the current study. Other participants were individuals identified from the list of contacts I made during prior research conducted in 2015 and regular visits to the schools through the SLL projects. The participants that I interviewed via Facebook Messenger were also selected purposefully as they were administrators of the Facebook page of interest, thus having valuable contributions and extensive knowledge about the organisation and its activities. I also used snowball sampling, whereby the primary participants referred me to further contacts. According to Deacon et al., (1999:53) this method is:

used in research into either very closed or informal social groupings, where the social knowledge and personal recommendations of the initial contacts are invaluable in opening up and mapping tight social networks.

This description reflects the situation in rural areas such as Dwesa, which is a closely-knit community (Timmermans, 2004). From the observations and preliminary conversations with the attendees of the training workshops, some indicated that although they did not use certain features or services on their mobile phone, they knew other people who did and therefore referred me to them. When I sent the message requesting an interview with one of the administrators on the Mpume Community Organisation Facebook page, the initial recipient of the message who agreed to be interviewed also referred me to another individual who was willing to take part in the research.

Of the 17 research participants that I interviewed, 12 were female and five male. The differences in gender representation are consistent with the earlier observation— it is mostly women who are interested in the training workshops. This dynamic is also explained by Mapi, Dalvit and Terzoli (2008) who note that the community comprises of mainly the elderly, women and children as most men migrate to the cities. It is mostly women who have

volunteered to learn computer skills over the years and to attend the training sessions. Participant's included both employed and unemployed individuals. The employed individuals comprised of the school teachers who also had an interest in the mobile training workshops. I conducted the interviews in IsiXhosa, aided by isiZulu (which is mutually intelligible and which is my mother tongue) and English. All the participants home language is isiXhosa. Having lived in an isiXhosa-speaking environment for over a decade, I am sufficiently proficient in it and aware of its similarities and differences compared to isiZulu.

Cohen and Crabtree (2006) argue that there are no fixed guidelines in analysing data in qualitative research. They further argue that in interpreting the information collected, breaking it down, synthesising it and discerning patterns, the researcher should continuously keep the research questions and the aims of the study in mind (Cohen & Crabtree, 2006). Taking this view into consideration, I understood that I had to find my way of making sense of the data collected. All the interviews were transcribed, and I coded the responses according to the main themes (Deacon et al., 1999; Cohen & Crabtree, 2006). Although Byrne (2004) states that it is essential for qualitative researchers to keep interview data in the context in which it was gathered and to preserve the respondents' use of their language to protect the original meaning expressed through the data, for the write-up, all the interviews were transcribed in English. Because all the interviews were conducted in isiXhosa and isiZulu, I attempted to maintain the sense of meaning which emerged in the conversations. I used a thematic guide of the semi-structured interviews to categorise and code the various findings that related to the sub-questions and overarching research question. I outlined the themes of analysis based on the three dimensions of social capital, trust and solidarity, social cohesion and inclusion and collective action and empowerment.

4.4 Ethical considerations and limitations of the study

Ethical considerations are critically important for any research because the effectiveness and credibility of a research study cannot be assured without carefully considering ethical standards (Byrne, 2004). Ethics in research refer to the principles and standards designed to ensure the safety of research participants and to prevent irresponsible research (Deacon et al., 1999). For the present study, I ensured that I obtain consent from all the participants. Before each interview began, I explained the purpose of the research to each participant. I issued each

participant with a consent form from the Rhodes School of Journalism and Media Studies which we reviewed and signed together. Before commencing with the interviews, I sought permission to record. One of the underlying principles of research is ensuring that no harm is inflicted on the participants in any way. This is why informed consent is crucial so that the participants know the aims and implications of the study, and can withdraw from the study if they choose to. Although the interviews were not overly formal, I maintained a professional relationship between myself and the participants. I protected the participants' confidentiality and anonymity by using pseudonyms.

One of the limitations that arose from the interviews was the response time of the interviews that were conducted via Facebook Messenger. As opposed to the face-to-face interactions whereby the participants responded and were recorded instantly, the interviews with the Facebook page administrators took longer than two hours each. This was because participants were 'offline' numerous times during the conversation, only coming back to respond once 'online'. Although this was a challenge for me regarding time, I later realised that one of the advantages of online interviews is the quality of responses. The respondents had more time to think about their responses as opposed to face-to-face interactions which resulted in 'richer' responses. I also experienced a limitation regarding the discussion of money during the interviews in this study. As mentioned above, the discussion of money is a sensitive issue and there were instances when I felt that the participants were uncomfortable discussing specific money-related issues and personal savings. However, the information I obtained was adequate for this study.

4.5 Conclusion

In this chapter, I began by locating this study within the interpretive paradigm. This paradigm emphasises that reality is socially constructed. I described how the study employed semi-structured interviews which were suitable for extended responses and relative flexibility in trajectory. I then outlined how I selected the participants through using convenience sampling, to gain access to readily accessible participants and snowball sampling through referrals from other participants. I described how I analysed the data thematically based on the themes that emerged concerning the dimensions of social capital described in Chapter Three. I lastly discussed some ethical issues that I had to consider before undertaking the study which

includes informed consent, anonymity and maintaining professionalism. I also reflected on some of the limitations of the study.

CHAPTER 5: FINDINGS

In this chapter, I present findings on how the participants in Dwesa use mobile media to their benefit across their various individual and organisational ties. Sections in the chapter outline findings in relation to the three dimensions of social capital discussed in Chapter Three, i.e. (a) trust and solidarity, (b) social cohesion and inclusion and (c) collective action and empowerment. The findings I present below are from the data collected from the individual interviews conducted face to face in Dwesa and those that were conducted online via Facebook Messenger. As stated in Chapter Four, pseudonyms were used instead of the participants' real names.

Individual ties identified by the participants include those with immediate and extended family members and relatives who live either in Dwesa or in the cities as well as friends, neighbours and acquaintances. The organisational ties identified in the present study relate to *stokvels*, a youth group, a teacher professional development class, the Siyakhula Living Lab (SLL) programmes and local churches. *Stokvels* are organisations that contribute to social support and material security. Members of *stokvels* contribute a fixed amount of money into a shared pool. In Dwesa, there are different kinds of *stokvels* with different purposes. In some *stokvels*, members agree upon the order in which they will receive a pay-out from the collected funds. Other *stokvels* share the money collected equally at the end of a set period, typically for Christmas groceries in December and others still use the funds to help members with funeral arrangements when they lose a loved one. The Mpume Community Organisation (MCO) is based on social and cultural interactions and aims at being a supportive structure for the young people of the Mpume village. Teachers from various local schools were part of a Bachelor of Education in ICT (BEd ICT) professional development course offered by Rhodes University and including educators from other parts of the Eastern Cape Province. The Siyakhula Living Lab, an ICT-for-development project partnering the local community with Rhodes University and the University of Fort Hare, has been discussed in Chapter One. Some local government Departments, non-profit organisations, churches, trade unions etc. are active in Dwesa. However, the only local institutions that were mentioned by the interviewees in the present study are schools and churches. Networks formed in the schools and churches are recognised and discussed as organisational ties in the present study.

5.1 Trust and solidarity

Participants stated that they strongly rely on the support they receive from their individual ties. The prevailing view that families are beneficial structures is consistent with the fact that participants live with their family members, including extended family members such as grandparents, aunts and cousins, whom they trust and depend on for various forms of support. The participants noted that in their households, there is more than one mobile device. All the participants stated that they do not share their mobile devices with anyone in their households. Young participants reported that they use smartphones while their older family members, if they owned phones at all, mostly use basic feature phones. However, some of the older participants that I interviewed own and use smartphones. These findings confirm that in Dwesa, as in many other rural communities in South Africa, the community is moving beyond issues of access, which relate to the first-level digital divide as the diffusion of mobile phones and Internet usage has relatively increased over the years. Mobile technologies have become a feature of everyday life and activities.

Within households, mobile phones are useful for the coordination of daily activities and making communication about various issues easier as family members are not always together during the day, some are at home while others are at school or at work. Thando's statement below is a reflection of the value of the family as a supportive structure to individuals and the role of mobile phones in facilitating communication. She stated that:

I live with many family members, and I would not have it any other way. My family is everything to me; they are always there for me. My sister is the first person I call if I have a problem or if I need to talk about something.

Mobile phones are vital for communication outside the household between friends and neighbours. Participants noted that support provided by such individual ties includes household exchanges or borrowing (e.g. of food and domestic items), financial support (including lending each other small amounts of money, for example, bus fare and airtime) and emotional support like having someone to talk to when in need. Andiswa expressed a specific trust associated with taking care of friends or neighbours children when their parents are away. She mentioned that she regularly asks her cousin to babysit her daughter when she is not home. Andiswa's statement below further reflects the role of mobile phones in facilitating mutual support and dependency by enabling faster communication between individual ties, which is helpful in

urgent situations. She stated that:

Phones (mobile) are helpful if I am stuck somewhere and can't get my child from school and I see that the time for the crèche to close is near. I call someone who can help or send a WhatsApp message and ask them to get her. Sometimes even when I get a message that she is sick at school, I can call someone to get her or send a 'Please Call Me' if I don't have airtime.

These relations based on trust, confirm Franklin's (2003) argument that trust reduces both the social costs such as the searching of information or securing services to be paid for. These relations based on trust are also a means of eliminating risks (Franklin, 2003) as in the previous example of babysitting, where it is better to leave a child with an individual one is closely related too.

The participants asserted that airtime and data are expensive, but most identified it as a necessity. Noluvo mentioned that an individual must always have either data or airtime. The participants use cost-effective ways of communicating with their individual ties as some indicated that they use 'Please Call Me' when they do not have airtime to call. Two participants noted that they take advantage of the 'Free Minutes' and 'Power Hour' discounts available on the Vodacom prepaid price plans and use them before they expire. WhatsApp is notably the most used mobile messaging application. The reason for its preference is noted in Phumlani's statement that "I use WhatsApp to talk to many people because it is cheap. If I buy airtime, I buy for data so I can chat with my friends and family members who are not here." The above statement reflects the participant's views on the accessibility of WhatsApp in terms of costs. Some participants noted that they mostly buy WhatsApp data bundles only, which are cheaper and can only be used within the messaging application to message and make/receive calls. Other reasons for WhatsApp preferences in this study corroborate with recent data and studies, which assert the popularity of the application to its ease of use, the cheaper voice calling function and being able to communicate in groups (Global Web Index, 2020; Rosenfield et al., 2018).

The participants who reside in Dwesa but do not live with their families stated that they visit their families regularly and are in communication with at least one family member daily. Miss Tembani is a teacher at Mpume Primary School, but she is originally from King Williams Town. She stated that her mother who stays in King Williams Town has diabetes and as a result, her leg was amputated in 2015. She explained the importance of mobile phone

communication for better monitoring her mother's health as she keeps contact with her aunt who is taking care of her mother daily. They communicate regarding her health, medication and clinic appointments. Miss Tembani's narrative on the assistance she receives from her aunt concerning her mother's health highlights the importance of trust within her family network and the immediacy brought by the mobile phone, especially since she lives far from home. Miss Tembani stated that:

She (aunt) calls me when my mother is too sick crying or panicking and not knowing what to do, I tell her to relax, and we find a solution...the other time we called an ambulance, sometimes I tell her to ask the neighbour with a car to take her to the clinic.

Mobile phones are essential tools for expressing solidarity between individuals who are in Dwesa and their relatives and friends in the cities. Examples of support and solidarity include the transfer of remittances and buying airtime and data transfers from family members who work mostly in the cities. For instance, Vuvu mentioned that her brother in Cape Town sends money home monthly and also gives her money specifically to buy data and submit (job) applications. Consistent with findings by Buthelezi and Dalvit (2019), the participants in the current study identified sending and receiving money via mobile phones as a cheaper alternative to using the formal banking institutions for the transfer of remittances. Iviwe explained the benefits of using the local supermarket mobile money services by stating that:

Now I don't need to have a bank account. My older brother sends money home for groceries every month. He deposits the money at Shoprite or Spar; he then sends me the withdrawal numbers (via mobile phone)...Sometimes my boyfriend sends money to me on the phone with Capitec [bank].

The participants emphasised the significance of reciprocation in mobile communication. For example, Sindiswa argued that it is not always one person who should initiate a conversation between friends on WhatsApp. Andiswa further explained that "WhatsApp has that thing where you can see when someone has read your messages. If they don't respond to important messages, maybe if you need some help on time, then they are not serious". The participants also cited WhatsApp as useful for the sharing of valuable information between friends and family which reflects solidarity among individual ties. Sindiswa mentioned that she uses WhatsApp with her group of friends who are in Dwesa. She said they "sometimes use it

(WhatsApp) for sending each other information, like to know what is going on in the area, news and gossip”. Thandi also noted that her sister in East London sends her information about jobs and short courses (via WhatsApp). Individuals also transfer other forms of knowledge via mobile communication as indicated in Thandiswa’s following statement:

My cousin (in Cape Town) and I always talk about fashion and clothes...I see the latest styles from her, and I buy that when I have money. She is good at picking nice things and colours; she sends that to me (via WhatsApp).

Miss Tembani explained that she combines communication mediums with the internet services on her phone for sharing information about medication and other issues related to her mother's health. She stated:

I google everything related to her health, even her medication as I am here. I ask my aunt who is at home to take a photo of it for me, then I google it and check what it’s for, and what it helps with and how she should take it.

The socio-economic status and level of education as in Miss Tembani’s example above is linked to the benefits of mobile phone use. She has access to resources such as an Internet-enabled phone and data and can use the Internet effectively. This related to Ragnedda and Kreitem’s (2018) argument that socio-economic and cultural backgrounds, which relate to the first and second-level digital divides, influence the benefits of ICT use, the third-level digital divide.

Mobile phones are used in various ways for communication and coordination of activities within the local organisations. Participants who are members of the different kinds of *stokvels* mentioned that they use mostly phones calls and WhatsApp to discuss organisation related matters such as dates of meetings, contributions to families who have funerals, grocery lists etc. The leaders of the MCO group are the ones who disseminate information on different social media platforms and put up posters in the local shops and schools. MCO has a vast social media usage as the organisation has an active WhatsApp group, Facebook and Instagram pages and a Twitter account. Anele explained the need to use the various platforms by stating that:

Our organisation has many young people who have phones (mobile) and are active on different

social media platforms. We have many members that are in Cape Town, others in East London and other far places we need to be able to cater to everyone, and they must get our messages and information where they are.

The BEd ICT students share information and communicate outside of the classroom by using mostly email and WhatsApp. Noluvo stated that mobile communication enhances class efficiency by reminding students “what they need to do, when the assignments are due and where everything occurs”. She further stated:

We always chat on the group with my classmates, let’s say I want to clarify something that we were told in class, I ask them on the group... I WhatsApp them and ask, tell me, how to do something, then maybe the lecturer or another classmate responds and tells me to follow, www. Or whatever that website is.

Aspects of trust within the local organisations were expressed in the participants’ views about organisation membership. The participants who are part of savings clubs highlighted the importance of joining savings clubs with people with whom one is already acquainted and therefore trusts. Noluvo stated that she knows “all the women of the *Ubulumko Babafazi (stokvel)*, some I work with, and others are neighbours and friends here in the area”.

Concerning new membership, she explained that all the women are free to join but emphasised that “someone (an already existing member) must at least know you so that we know about you and what kind of person you are”. Although members stated that they trust each other, Noluvo suggested that mobile phones are useful for transparency as members can receive notifications of account information such as bank deposits, withdrawals and balances. Women who are part of *stokvels* benefit from being part of an organisation that assists in saving and potentially gaining financial independence. This reflects solidarity as one receives support in times of need, for example, Noluvo stated that she was mourning for her husband when the members' of her current *stokvel* invited her to join the group (*stokvel*).

Participants stated that being members of the respective organisations results in emotional and spiritual wellbeing, which relates to solidarity within the groups. Members of Noluvo’s *stokvel* WhatsApp group circulate memes, motivational quotes and share videos. She mentioned that the group also shares spiritual and motivational messages. She added that “if someone has a funny video or a shocking video that we might want to see then the person shares it with the group.” Similarly, MCO also expresses solidarity in terms of contributing monetary and

spiritual support when there is death in the community. Sinothando stated that “if there is a family that has lost a family member, we try and make a donation and those that can go to that household before the funeral go and deliver the money and make a special prayer”. Other participants stated that their local churches play a role in the reduction of poverty in some households within the community, which is an example of solidarity. One participant mentioned that the priest or other leaders from her church visit the sick and elderly in the

From the various networks that the participants are a part of, a recurring aspect of solidarity was through information sharing for opportunities such as jobs and academic information. According to the participants, *stokvels* and MCO play a significant role in information sharing via mobile phones. Noluvo, exemplified this by stating that “the jobs that are open now at the reserve, many of our children applied for them because we shared the information on our group and then they went to the reserve to send their CV’s”. Similarly, the administrators of MCO’s Facebook page disseminate information on jobs, funding opportunities, and tertiary education. One respondent mentioned that she has “applied for many jobs that are shared on the Facebook page”. Below is an example of the information and opportunities posted on the page:

Good day all! Are you currently in Matric/Grade 12 or already matriculated?? Interested in studying further next year 2018? Well if your answer is YES to the above questions, kindly contact X especially if you're in E.C she will assist in providing you with the application forms for the Tertiary Institution that you're interested in furthering your studies in. Don't say you didn't know, here's an opportunity; use it. is the key to success.
mabande. Kind Regards, MCO

Another participant added that “now that I have a better phone there are many things that I see on the page. The page is not for playing and entertainment only, serious things are posted there, I like it”. According to Anele, one of the MCO Facebook page administrators, most of the information on opportunities posted on the page is based on the local opportunities, around Idutywa, Willowvale and other towns around the Eastern Cape. He, however, added that they also share opportunities in other parts of the country, especially in Johannesburg and Cape Town. The leaders of MCO also use Facebook to share donations and fundraising details for some local events. One of the leaders stated that members of the organisation who live in other towns or cities sometimes contribute through sending mobile donations. He mentioned that “most people who are working live far from Dwesa but they are the ones we rely on a lot for

donating. Like for the Easter tournament some of our people sent money via e-Wallet and Shoprite. After the tournament, the funders were listed and thanked on the Facebook page. This is another example of solidarity.

5.2 Social cohesion and inclusion

The relationships between the participants and their individual ties are strongly influenced by how family members relate to one another and work together as a unit. This is highlighted in efforts to maintain regular communication and support each other. One participant stated that she talks “to [her] aunt and cousins who are in East London most of the time, just to ask them, how is life?” The participants cited WhatsApp as an effective medium to communicate with individual ties in and outside Dwesa, which characterises this platform as crucial for social cohesion in families and communities. On the other hand, some participants acknowledged that mobile phone use contributes to isolation and the reduction of face-to-face interactions. One participant said:

I don't visit my neighbours as much as I used to. If we have to talk about something there is WhatsApp, if she is not online I send a 'Please Call Me', and she knows that she has to get online then we talk.

WhatsApp also facilitates social cohesion through group chats. Two participants stated that they have WhatsApp groups where family members communicate about family-specific issues. They both noted that these groups are essential for instances such as when they need to respond to an emergency or when they need moral support. Phumlani stated that in their group they talk about issues “like if it is someone's birthday or if there will be maybe a party or if someone passes on, who will do what and so on”. The sharing of news and information in WhatsApp family groups further facilitates social cohesion and inclusion between members. For example, one participant indicated that in their group, they sometimes share jokes that are family-specific of maybe an incident that once happened and everyone is aware of. Opinions about community news and gossip related to attempts by other family members to keep conversations going within the group and have a sense of family unity. WhatsApp groups show how different platforms are suitable for communication with different types of people, which relates to exclusion and inclusion. For example, Phumlani specified that although their family WhatsApp group has some 'older' members like her aunt, it is mostly 'younger members who engage on

it. They [younger members] pass on the communication they have to older family members SMS, phone calls or by word of mouth. Some participants are of the view that social media platforms and mobile networking sites such as WhatsApp and Facebook Messenger are more useful in informal settings or when communicating with people of almost the same age group. For example, Thandiswa stated that “I only use it (WhatsApp) to chat with other young people, like my father has WhatsApp but we don’t chat there”. Although WhatsApp family groups are useful for maintaining relationships, which potentially makes it easier to refer to them for support, these examples show how mobile communication excludes certain people based on their age and family membership position. Although some participants stated that they use Facebook to connect with other people, many of them indicated that they keep their friends list on this platform intimate. These findings support views of scholars such as Ling and Donner (2009), that existing social relations are produced online on platforms such as Facebook and LinkedIn where users typically sustain contact with their existing groups of friends and acquaintances rather than meeting new people. Although such findings in Dwesa further emphasise the role of mobile phones for the strengthening of stronger networks, in such examples, the use of the mobile phone thus limits the expansion of other individual networks.

Participants value local organisations for the sense of social cohesion and inclusion that they offer. Members of the various *stokvels* suggested that the groups are open to anyone who wants to join them. Interestingly another participant regards *stokvels* as organisations that are exclusively for women. When asked to elaborate why this was the case, she said: “I don’t know, but it’s just for our families. Men cannot sit and put money together and buy groceries”. MCO is open to all community members, and mobile phones contribute towards the growth in numbers of the various groups. One founding member of MCO said this about group membership: “There are many people in different places such as East London, uMthatha, Cape Town that are part of the organisation. Without phones, it would be hard to get so many activities done... WhatsApp and Facebook have helped the number of members grow and we are everywhere. All people from Mpume can be in touch from anywhere.” Their mission on the Facebook page reflects the organisation’s intention to include as many young members from the village as possible in their mandate. In referring to MCO, one participant stated that they “do a lot of nice things, like coming together during special holidays like Christmas, New Year and June 16. We sing and dance and sometimes do educational activities”. MCO emphasises building social cohesion, especially amongst the different village regions. Anele stated that one

of the objectives of the organisation is to promote peace between the Mpume area and other nearby villages. This comes after years of disputes which have in the past resulted in instances where certain areas had boundaries where other people could not pass. The organisation planned sports tournaments as an attempt to reinforce social cohesion and inclusion in the Dwesa communities. The Facebook post stated:

We, as the youth of iMpume under our Chief Vul'inqaba we call upon peace in all these areas. What we are saying enough is enough, we don't want any of these areas to lose another soul because of grudge and hatred. In the past we've had instances where a certain area was limited to its own space and cannot go from point A to point B. We urge all the community members to come together and work together in creating harmony in our communities. Therefore we call upon all the surrounding areas to kindly participate in this tournament to bring peace amongst our fellow brother's and sisters.

Anele identified Facebook as the most suitable platform to disseminate information about the tournament as the messages could reach many people. He further stated that the administrators of the Facebook page had requested members of the surrounding communities who are not part of MCO to share the posts on their Facebook profiles so that more people could see them.

When referring to the BEd ICT class, Noluvo noted that “before we had the WhatsApp group, students didn't feel comfortable to call the teachers because we did not want to bother them, now we can even talk to them privately on WhatsApp maybe if we don't want to bother the entire class”. She further stated that the group creates a dialogue between the student-teachers to enable them to share information and work as a team which is helpful for them. Noluvo recommends WhatsApp group chat as an efficient technique in enhancing interactions outside classroom contexts. However, she argued that the primary technical challenge is the fact that not all student-teachers have a smartphone or the application. The other student-teachers and the lecturers are obligated to be sensitive and to keep up the connection with those student-teachers through other means, usually by simple text messages (SMS). Noluvo's analysis of the WhatsApp chat dynamics reflects aspects of inclusion and exclusion as mobile phones promote inclusion within the academic content for those who use WhatsApp while excluding those that do not come from the discussions.

In relation to the SLL, there is a committee responsible for coordinating and mobilising

community members who are interested in the digital literacy workshops. Buntu mentioned that:

Mrs Ngwane is the one who communicates with us about the mobile training workshops. She sends WhatsApp messages and SMS's to us if she has our numbers and then tells us to forward the disseminate the information to other people who might want to come.

Other participants who were regular attendees of these workshops stated that they usually receive phone calls from the coordinating committee member or teacher from the local school to invite them to the training. All participants who have attended the ICT training workshops emphasised their usefulness in assisting them to have basic ICT skills. It is interesting to note that the examples above reflect how within the various local organisations, the members continually communicate and include each other in activities that they regard as beneficial to the individuals and the community at large.

The participants indicated that most of the people that they meet at the school's computer labs through the SLL projects are people that they know or are acquainted with. Two participants stated that they met new people at the computer labs during training and have since formed relationships with them even outside the computer labs. Below are some of the views about the computer labs at the schools and the kinds of networks they foster. "I knew some of the people who come to the mobile training here, but others I only started talking to them after meeting them at the computer labs". The schools are places where people meet and engage for beneficial relationships, and can further maintain these newly formed friendships through mobile communication.

5.3 Collective action and empowerment

Individual ties were cited as playing an essential role in the empowerment of individuals and households. This was exemplified in situations where the participants stated that they get empowering information such as vacancies and education opportunities from their friends and family members in the cities. For example, Phumlani noted that "if there is a job that my brother or friend knows of where they work, they will call me and tell me and maybe I will apply". Another participant indicated that her sister in East London assists by sending job applications to companies on her behalf. The spirit of collective action within individual ties is

also observable in the coordination and working together of family members, friends and neighbours during events such as funerals, weddings, *umgidi* etc. Thobeka stated that her relatives and neighbours were of assistance in the organisation of a family funeral, providing support with cleaning the house, cooking, washing dishes etc. The presence of a supportive caring network reflects on the ideologies and values of *ubuntu*. The use of mobile phones was necessary for the facilitation of communication between the various people who were assisting in coordinating various funeral related aspects. She stated that her aunty was using the phone keep in touch with the ladies who were assisting with grocery shopping in town. In this regard, the usefulness of mobile phones is significant when taking into consideration the distance to the nearest town where the groceries were bought.

Most of the examples of solidarity and social cohesion within the various local organisations discussed in the previous sections are related to collective action and empowerment which are expressed in the ‘upliftment’ of women through the various *stokvels* and the endeavours of the MCO in assisting towards the development of young people within the community. Activities of *stokvels* result in individual empowerment as well as the empowerment of households. For example, Xoliswa stated that through being a member of the *stokvel*, she is no longer financially dependent on her husband as she can also contribute to her family’s financial well-being. She explained that in the previous year, she used the *stokvel* money to buy school necessities such as stationery and school uniforms for her children. For the student-teachers, mobile phones use, and interactions with the lecturers contribute to the improvement of educational outcomes.

The participants who are members of MCO see value in the activities of the organisation as they work together in an attempt to fight youth unemployment and social ills in the community. The vision of MCO highlights a sense of collective action and the importance of working together for the common good of the youth. The Facebook page states that:

Charity Begins At Home!!! We as Mpume Youth we wanna make a difference in our very own location, and so far we have been doing exactly that however with your assistance, your involvement and your participation I’m sure we can do better. There's a lot we can do when we work together.

An example of MCO's collaborative activity cited by Anele was a fundraising initiative to help a local crèche. The organisation also invites stakeholders and guests for community events who share insightful information and potentially empower the youth by telling them about opportunities. For example, below is a list of the guests who were invited to address the youth during the Easter tournament as advertised on the Facebook post:

We're pleased to inform you all that we will have special guest's from different stakeholder's to address *ulutsha lakowethu* (our youth). Guests from Social Development, SAPS, Department of Education, Eastern Cape Liquor Board, Izibonda and Chief Vul'nqaba.

The above example further echoes MCO's attempts to improve the livelihoods of the youth of Mpume. The significance of mobile phones within the group activities is the fact that the members use them to access the information and communicate.

5.4 Conclusion

Participants depend on both their individual ties and organisational ties for emotional and financial support and in-kind services. This mutual dependency is based on the trust that individuals in the network have for each other and expect from each other. Social cohesion and inclusion in both the individual and organisational ties are shown in attempts to maintain regular communication. WhatsApp is the most commonly used platform for calls because it is cheaper than voice-calls and as many of the participants indicated, it is widely used by a significant number of people in the community. Within local organisations, the use of WhatsApp is mainly for the coordination of activities. Collective action and empowerment efforts include working together to reduce poverty as evident in the *stokvels* as well as assisting each other get access to opportunities as evident in the activities of MCO.

CHAPTER 6: CONCLUSION

In this chapter, I present the key findings concerning the research question, how mobile phones mediate bonding, bridging and linking social capital in Dwesa. I then reflect on the research process by discussing some of the challenges encountered and how I addressed them. I lastly provide a few recommendations for future research.

6.1 Key findings

6.1.1 Bonding social capital

Consistent with previous research (Mosuo, 2013), the findings in the present study confirm that bonding is the prevalent form of social capital in Dwesa. The findings support Ling's (2010) assertion that mobile phones benefit individuals by strengthening already existing ties. The participants rely on their individual ties for various forms of support. Being able to call or send messages to request family members and friends to assist with babysitting, fetching children from school or looking after sick parents reflect the role of mobile phones to foster the values of trust and mutual support among individual ties. The participants use their mobile phones for coordinating day-to-day activities and staying connected with people in the community as well as in the cities. Mobile phones facilitate transferring money, airtime and information between the individuals in the cities and those in Dwesa, which relates to trust and solidarity. The use of mobile banking and mobile money services as Aker and Mbiti (2009) argue, contribute towards socio-economic inclusion and access to services for the Dwesa community members who previously could only travel to the cities for such services. Different uses of mobile communication are more suited for different relationships. Participants prefer using WhatsApp to communicate with their peers, while voice calls and SMS's are used with the elders. Furthermore, WhatsApp group chats are useful for reinforcing social cohesion and inclusion within families. The use of Facebook and WhatsApp with its group chat function enhances effectiveness in the activities of the local organisations by increasing social cohesion and integration, thus strengthening bonding social capital. The attempt by MCO to try and bring together villages who were in dispute for years for a sports tournament can be considered as an example. The networks within the various local organisations or institutions are built primarily on trust as the participants create interpersonal ties with like-minded people who have similar backgrounds and life challenges. The bonding ties in these groups and networks

are strengthened by active membership and regular communication.

6.1.2 Bridging social capital

Organisations play an essential role in building bridging social capital. The findings support Hampton et al.'s (2011) argument that bridging forms of social capital relate to mutual solidarity with outsiders around a common interest or particular activities. Access to the information available through external SLL connections relates to the usefulness of mobile phones in the empowerment of communities. The training workshops of the SLL project are not limited to the official teaching 'agenda' as community members can request advice and useful knowledge such as information on higher education institutions, mobile and computer troubleshooting and job opportunities. Communicating and sharing information based on these kinds of requests corroborates with Granovetter's contention that there is strength in weak ties and relates to the dimension of collective action and empowerment. The teachers who are the primary reference persons for the SLL project in the community confirmed that they maintain regular contact through mobile phones with some of the researchers when the latter are not in the community. The inclusive norms of mobile messaging applications such as WhatsApp group chats for the organisations (e.g. BEd ICT students and lecturers, SLL trainers and community members) are based on shared interests and goals for members with different backgrounds. In relation to the third-level digital divide, the use of mobile phones, particularly among the organisational networks reflects on the abilities of individuals within the community to convert the possibilities offered by the ICTs into opportunities, benefits and resources that are tangible.

6.1.3 Linking social capital

Buthelezi and Dalvit (2019) note that the relationship between the SLL researchers and the community members blurs the boundaries between bridging and linking social capital because some of the researchers share similar backgrounds with the community members while also having a higher status as they are associated with academia. There is little evidence and examples of mobile phone communication and information for linking social capital in the present study. The networks that MCO forges provide an opportunity for increased interaction between participants and individuals in local government positions. Such networks offer funding opportunities for the local organisations and the potential to receive relevant information which empowers the community members. The people who are at the frontline within these networks are those with a more permanent status such as the teachers in the

community and the leaders of organisations. There is, however minimal evidence that mobile phones play a significant role in building or maintaining these linking networks.

6.2 Reflections on the process

One of the advantages of conducting this research in Dwesa was the existing relationship with the community members through the SLL project and my prior research in the field. This double role, as a researcher and previous visitor, was helpful as the participants were able to identify me from the training workshops, and this enabled me to gain easier access to research participants. The research process extended my own networks of colleagues and friends as the leaders of MCO continuously update me of other organisation related activities and have extended a few invitations to me to their sports and cultural events, which I hope to attend soon. One of the MCO administrators who I had been in contact with sent me a message on Facebook Messenger and stated that he is thankful for me for showing interest in what they do, “we are also looking forward to working hand in hand with you in the near future”. Although he did not make it explicit, I felt that there might be some expectation of some favourable influence or contribution on my part. I responded to the message specifying that my involvement was based purely on research interest. Despite my best efforts at being clear and upfront, managing possible misunderstandings and false expectations was a key issue during and after the process.

I realised during the interviews that our lives - mine and the participants' - mirrored each other in many instances. I am from a rural area, with limited resources or infrastructure and where internet connectivity in the village is a relatively new phenomenon. Although I understood and could relate to the local context in some of the responses to the questions, I ensured that I remained as objective as possible, by letting the participants speak and asking them to explain the context in greater detail without immediately assuming to understand what they were talking about or what they would say. However, there were instances where I may have unconsciously projected my own experience on the findings during the analysis, especially concerning the *stokvel* activities. I tried my best to relate participants' accounts through an emic perspective, either verbatim or in summary.

6.3 Recommendations and future research

In a marginalised community such as Dwesa, with a history of segregation and stratification along racial, geographical and socio-economic lines, further research is needed on whether a distinction between bridging and linking social capital is meaningful. The three forms of social capital were useful for an exploratory study, building on an established tradition of offline sociological research. A study which further explores the concept of digital capital by analysing it concerning how the online experiences of users are translated into social benefits can be worthwhile in a context such as Dwesa, with an already established ICT base, average internet and smartphone use and an extensive body of existing research. As Dwesa is a complex and heterogeneous area where people benefit differently from mobile technology and where digital inclusions and exclusions are at play, a study that focuses on non-users and their experience would provide a unique perspective on the mobile phenomenon in rural Africa. While it would be easy to assume that digital exclusion in such a context is mainly dictated by poverty, the present study highlighted the emergence of a critical perspective, e.g. mobile communication as detrimental to personal contacts. For all its benefits, mobile use also presents drawbacks and poses new challenges worthy of scholarly enquiry.

APPENDIX A

Interview Guide

1. What phone do you have? What are its features? Does it have the internet?
2. What do you use your phone for?
3. How many people have a phone in your family?
4. Who do you communicate the most with on your phone? How do you communicate with them? What do you communicate about mostly?
5. Do you communicate with other people that are not in Dwesa? How do you communicate?
6. Which mobile phone communication platform do you prefer and why?
7. Do you use social media and instant messaging applications? What do you use them for?
8. Tell me about organisations you are part of in the community? What activities do you do in your organisation? Do you use the mobile phone within them, how?
9. Are you part of any groups or organisations outside of Dwesa? What activities do you do? Do you use the mobile phone within them? How?
10. Do you think mobile phones can improve your life and the community? How?

BIBLIOGRAPHY

- Abraham, A. (2018). *Global Mobile Consumer Survey 2017 The South African Cut*. 26. https://www2.deloitte.com/content/dam/Deloitte/za/Documents/technology-media-telecommunications/ZA-Deloitte-South-Africa-Mobile-Consumer-Survey-2017-Mobile_090718.pdf.
- Ahonen, T. (2008). *Mobile as 7th of the mass media: Cellphone, camera-phone, iPhone, smartphone*. London: Futuretext.
- Aker, J. C., & Mbiti, I. M. (2009). Mobile Phones and Economic Development in Africa. *Journal of Economic Perspectives*, 24(3), 1–44.
- Alam, S. L., & Mcloughlin, C. (2010). Using digital tools to connect learners: Present and future scenarios for citizenship 2.0. *ASCILITE 2010 - The Australasian Society for Computers in Learning in Tertiary Education*.
- Babbie, E., & Mouton, J. (2001). Qualitative data analysis. *The Practice of Social Research*, South Africa Edition, 489-516.
- Bacishoga, K. B., Hooper, V. A., & Johnston, K. A. (2016). The role of mobile phones in the development of social capital among refugees in South Africa. *Electronic Journal of Information Systems in Developing Countries*, 72(1), 1–21.
- Baro, E. E., & Endouware, B. C. (2013). The Effects of Mobile Phone on the Socio-economic Life of the Rural Dwellers in the Niger Delta Region of Nigeria. *Information Technology for Development*, 19(3), 249–263.
- Batista, C., & Vicente, P. C. (2014). Introducing Mobile Money in Rural Mozambique: Evidence from a Field Experiment. *SSRN Electronic Journal*, January.
- Bernard, H.R. (1988). *Research Methods in Cultural Anthropology*. Newbury Park, California: Sage.
- Bhatia, D., Bhavnani, A., Won-Wai Chiu, R., Janakiram, S., Silarszky, S. (2008). *The Role of Mobile phones in sustainable rural poverty reduction*.
- Boeck, T., Fleming, J. & Kemshall, H. (2008). Social Capital, Resilience and Desistance: The ability to be a risk navigator. *Young*, 6(3), 1–17.
- Bolderston, A. (2012). Conducting a research interview. *Journal of Medical Imaging and Radiation Sciences*, 43(1), 66–76.
- Botelho, A., & Alves, A. (2007). Mobile use/adoption by micro, small and medium enterprises in Latin America and the Caribbean. ... *Access in Latin America and the Caribbean*

- <http://www.dirsi.net/espanol/files/finals/070215--botelho.pdf>.
- Bourdieu, P. (1986). The Forms of Capital. In J, Richardson (Ed.), *Handbook of theory and research for the Sociology of education*. New York: Greenwood.
- Bryman, A., Bresnen, M., Beardsworth, A., & Keil, T. (1988). Qualitative Research and the Study of Leadership. *Human Relations*.
- Buqa, W. (2015). Storying ubuntu as a rainbow nation. *Verbum et Ecclesia*.
- Burgess, R. (2005). *Urban fragmentation is a spatial phenomenon that results from the act of breaking up , breaking off from , or disjointing the pre-existing form and structure of the city and systems of cities* . 127–137. (2016). . In C. Seale (Ed.), *Researching Society and Culture* (Fourth ed., pp. 217-236). Sage Publications Ltd.
- Buthelezi, M. (2015). Money -related uses of mobile phones in a South African rural area (Unpublished BA Honours thesis). Rhodes University, Grahamstown, South Africa.
- Buthelezi, M. and Dalvit, L. (2019). "Exploring how mobile phones mediate bonding, bridging and linking social capital in a South African rural area". Chapter 10 in Mutsvairo, B. and Ragnedda, M. (Eds.) *Mapping Digital Divides*. Amsterdam University Press.
- Cammaerts, B., & Van Audenhove, L. (2005). Online political debate, unbounded citizenship, and the problematic nature of a transnational public sphere. *Political Communication*.
- Campos-Castillo, C. (2015). Revisiting the First-Level Digital Divide in the United States: Gender and Race/Ethnicity Patterns, 2007–2012. *Social Science Computer Review*, 33(4), 423–439.
- Castells, M. (2002). *The Internet galaxy: Reflections on the Internet, business, and society*. Oxford University Press on Demand.
- Chandler, D. (2002). Technological or media determinism. In *University of Aberystwyth*.
- Chatikobo, T. (2019). Understanding the perceived role of mobile media in relation to development in a South African rural area. Masters Thesis. School of Journalism and Media Studies, Rhodes University.
- Chatikobo, T., & Dalvit, L. (2020). Services, Schools and Skills: Mobile Media and Local Development in a South African Rural Area. *Smart Innovation, Systems and Technologies*, 158, 219–231.
- Chiumbu, S. (2012). Exploring mobile phone practices in social movements in South Africa - the Western Cape Anti-Eviction Campaign. *African Identities*.
- Cloete, P. & Kotze, F., 2009, 'Concept paper on social cohesion/inclusion in local integrated development plans', Commissioned by Department of Social Development, Republic of

South Africa, final draft.

- Cobbah, J. 1987. "African Values and the Human Rights Debate: An African Perspective." *Human Rights Quarterly*, Vol. 9. No 2, 307 - 331.
- Coetze, J.K. (2001). *Development: Theory, Policy, and Practice*. Oxford University Press.
- Cohen, L., Manion, L., & Morrison, K. (2007). Research Methods in Education. *Education* (Vol. 55, pp. 469–470). doi:10.1111/j.1467-8527.2007.00388_4.xation. In *Education*,
- Colloppen, N. (2015). An exploration of media and mobile usage ecosystems in marginalised areas: The case of Dwesa. Honours paper. School of Journalism and Media Studies, Rhodes University.
- Coleman, J. S. (1988). Social Capital in the Creation of Human Capital. *The American Journal of Sociology* 94, S95-S1.
- Coleman, J. S. (1990). *Foundations of social theory*. Cambridge: Belknap Press of Harvard University Press.
- Cox, K., Marcellino, W., Bellasio, J., Ward, A., Galai, K., Meranto, S., & Paoli, G. P. (n.d.). *Social media in Africa Executive summary*.
- Cristoferi, M. (2014). ICT4D in rural South Africa: A territorial analysis of cellphone devices uses in Dwesa and further opportunities of development related to mobile applications (MA thesis in Local Development). University of Padova, Padova, Italy.
- Cristoferi, M. and Dalvit, L. (2013). "Money-related uses of mobile phones in a South African rural area". Proceedings of the conference on Mobile Telephony in the Developing World, 24 – 25 May 2013, Jyvaskyla (Finland).
- Dalvit, L. (2015). "Mobile phones in rural South Africa: stories of empowerment from the Siyakhula Living Lab". In Dyson, L., E., Grant, S., and Hendriks., M. (Eds) *Indigenous People and Mobile Technologies*. Routledge. ISBN (10): 1138793310.
- Dalvit, L., & Miya, M. (2018). Becoming a mobile internet user in a South African rural area: The case of women in Dwesa. *Smart Innovation, Systems and Technologies*.
- Dalvit L. and Cristoferi M., 2015, An investigation into money-related mobile use in a South African rural community, in Steyn, J., Van Belle, J.P. (eds.), 2015, Beyond development. Time for a new ICT4D paradigm? Proceedings of the 9th IDIA conference, IDIA2015, Nungwi, Zanzibar. ISBN: 978-0-620-68395-1, pp. 327 – 338.
- Dalvit, L., Siebörger, I., & Thinyane, H. (2012). The expansion of the Siyakhula Living Lab: A holistic perspective. *Lecture Notes of the Institute for Computer Sciences, Social-*

Informatics and Telecommunications Engineering.

- De la Cruz Paragas, F., & Lin, T. T. C. (2016). Organizing and reframing technological determinism. *New Media and Society*, 18(8), 1528–1546.
- Deacon, D., Pickering, M., Golding, P., & Murdock, G. (1999). Counting contents. In *Researching Communications A practical guide to methods in media and cultural analysis*.
- Deandrea, D. C. (2012). Participatory Social Media and the Evaluation of Online Behavior. *Human Communication Research*. <https://doi.org/10.1111/j.1468-2958.2012.01435.x>
- De Bruijn, M., Nyamnjoh, F., & Angwafo, T. (2010). Mobile interconnections: Reinterpreting distance, relating and difference in the Cameroonian Grassfields. *Journal of African Media Studies*, 2(3), 267-285.
- Dey, B., & Ali, F. (2016). A critical review of the ICT for development research. In *ICTs in Developing Countries: Research, Practices and Policy Implications*.
- DiMaggio, P., & Hargittai, E. (2001). From the “Digital Divide” to “Digital Inequality”: Studying Internet use as Penetration Increases. *Center for Arts and Cultural Policy Studies, Princeton University*, 15, 1–23.
- Donner, J. (2008). Research approaches to mobile use in the developing world: A review of the literature. *Information Society*, 24(3), 140–159.
- Donner, J., & Escobari, M. (2009). A review of the research on mobile use by micro and small enterprises (MSEs). *2009 International Conference on Information and Communication Technologies and Development, ICTD 2009 - Proceedings*.
- Dudwick, N., Kuehnast, K., Jones, V. N., & Woolcock, M. (2006). Analyzing social capital in context: A guide to using qualitative methods and data. *The International Bank of Reconstruction and Development/ The World Bank*, 52.
- Durkheim, E. (1933). *The Division of Labour Society*. George Simpson Trans. New York: MacMillan.
- Dyson, L. E., Hendriks, M., & Grant, S. (2006). Information technology and indigenous people. In *Information Technology and Indigenous People*.
- Eriksson, E. (2008). A Case Study About Cell Phone Use by People in Rural Kenya (Dissertation). Retrieved from <http://urn.kb.se/resolve?urn=urn:nbn:se:vxu:diva-2023>.
- Etzo, S., & Collender, G. (2010). The mobile phone “revolution” in Africa: Rhetoric or reality? *African Affairs*.
- Fanta, F., & Upadhyay, M. P. (2009). Poverty reduction, economic growth and inequality in

- Africa. *Applied Economics Letters*. <https://doi.org/10.1080/13504850701719587>
- Field, J. (2003). Social capital. In *Social Capital*. <https://doi.org/10.4324/9780203634080>.
- Franklin, J. (ed.) (2003) Politics, trust and networks, Families & Social Capital ESRC Research Group Working Paper No 7, London South Bank University.
- Geertz, C. (1973). *The Interpretation of Cultures*. Basic Books: New York.
- Gelb, E., Maru, a, Brodgen, J., Dodsworth, E., Samii, R., & Pesce, V. (2008). Adoption of ICT* Enabled Information Systems for Agricultural Development and Rural Viability. *The AFITA, IAALD and WCCA Conference in Atsugi Japan*.
- Gigler, B.-S. (2012). Informational Capabilities - The Missing Link for the Impact of ICT on Development. *Ssrn, December 2011*. <https://doi.org/10.2139/ssrn.2191594>.
- Giotta, G. (2018). Teaching technological determinism and social construction of technology using everyday objects. *Communication Teacher*, 32(3), 136–140.
- Global Web Index. 2020. Social media Marketing Trends in 2020 Report. Retrieved from <https://www.globalwebindex.com/reports/social>.
- Godfrey, P. C. 2014. (2014). More than Money Five forms of capital to eliminate Poverty. In *Stanford Business Books*.|
- Goldstuck, A. (2012). Internet matters: The quiet engine of the South African economy. *World Wide Worx*, 38-50.
- Goldstuck, A. (2018). *SA has taken to social media like never before – The Citizen*. The Citizen.
- Granovetter, M. (1983). "The Strength of Weak Ties: A Network Theory Revisited". *Sociological Theory*. Greenwood, S., Perrin, A., & Duggan, M. (2016). Social Media Update. *Pew Research Center*.
- Groups, S. (2007). Social Groups and the Flexibility of Virtue. *Psychological Science*.
- Guba, E., & Lincoln, Y. (1994). *Guba & Lincoln 1994.pdf*. Handbook of Qualitative Research.
- Gurstein, M. (2003). Effective use: A community informatics strategy beyond the digital divide. *First Monday*. <https://doi.org/10.5210/fm.v8i12.1107>.
- Hampton, K. N., Lee, C. J., & Her, E. J. (2011). How new media affords network diversity: Direct and mediated access to social capital through participation in local social settings. *New Media and Society*.
- Harande, Y. I. (2009). Information services for rural community development in Nigeria. *Library Philosophy and Practice*.
- Hargittai, E. (2003). The Digital Divide and What To Do About It. *First Monday*, 1–19.

- Heeks, R. (2002). I-development not e-development: Special issue on ICTs and development. *Journal of International Development*.
- Hosman, L., & Fife, E. (2012). The Use of Mobile Phones for Development in Africa: Top-Down Meets Bottom-Up Partnering. *The Journal of Community Informatics*.
- UNDP. (2001). Human development report 2001: Making new technologies work for human development. In *Human Development Report 2001*. <https://doi.org/10.12828/77420>.
- Jensen, R. S. (1982). Pilot Judgement: Training and Evaluation. *Human Factors*.
- Johnson, C. A. (2005). Choosing people: the role of social capital in information seeking behaviour. *Information Research-an International Electronic Journal*, 10(1), 16.
- Johnston, L. (2014). A Workflow Model for Curating Research Data in the University of Minnesota Libraries: Report from the 2013 Data Curation Pilot. *University of Minnesota Digital Conservancy*.
- Jones, S., Johnson-Yale, C., Millermaier, S., & Pérez, F. S. (2009). U.S. college students' internet use: Race, gender and digital divides. *Journal of Computer-Mediated Communication*.
- Kalondo, E. 2005. Kenyans hold peaceful referendum after bitter campaign. Monsters and Critics News.
http://news.monstersandcritics.com/africa/article_1063516.php/Kenyans_hold_peaceful_referendum_after_bitter_campaigns.
- Kavhai, M. (2010). The impact of ICT in Dwesa, a rural area in South Africa (MSocSci thesis in Communication). University of Fort Hare, Alice, South Africa.
- Kellerman, A. (2006). Personal mobilities. In *Personal Mobilities*.
<https://doi.org/10.4324/9780203087169>
- Kivunja, C., & Kuyini, A. B. (2017). Understanding and Applying Research Paradigms in Educational Contexts. *International Journal of Higher Education*.
- Kline, R. R. (2015). Technological Determinism. In *International Encyclopedia of the Social & Behavioral Sciences: Second Edition*.
- Kral, I. (2014). Shifting perceptions, shifting identities: Communication technologies and the altered social, cultural and linguistic ecology in a remote indigenous context. *Australian Journal of Anthropology (The)*.
- Lacohée, H., Wakeford, N., & Pearson, I. (2003). A social history of the mobile telephone with a view of its future. *BT Technology Journal*.
- Lawack-Davids, V. (2012). The legal and regulatory framework of mobile banking and mobile

- payments in South Africa. *Journal of International Commercial Law and Technology*.
- Lembani, R., Gunter, A., Breines, M., & Dalu, M. T. B. (2019). The same course, different access: the digital divide between urban and rural distance education students in South Africa. *Journal of Geography in Higher Education*.
- Ling, R. & Donner, J. (2009) *Mobile communication*. London: Polity.
- Ling, R. (2004). *The Mobile Connection: The cell phone's impact on society*. San Francisco: Morgan Kaufmann
- Ling, R. (2010). *New Tech New Ties*.
- Lyimo-Macha, J. G., Kiondo, E., & Saide Sife, A. (2010). Contribution of Mobile Phones To Rural Livelihoods and Poverty. *The Electronic Journal of Information Systems in Developing Countries*, 42(3), 1–15.
- Lynn, P., & Kaminska, O. (2013). The impact of mobile phones on survey measurement error. In *Public Opinion Quarterly*. <https://doi.org/10.1093/poq/nfs046>
- IlimaLabantu. (2010). Eastern Cape Rural Development Strategy. Republic of South Africa: Province of the Eastern Cape. Retrieved on March 20, 2019 from the World Wide Web: <http://www.dplg.ecprov.gov.za>.
- Mackey, A., 2016, 'Sticky emotional connections: Young people, social media, and the re-orientation of affect', *Safundi: The Journal of South African and American Studies*, viewed 30 September 2016, from
- Makofane, M. D. M., & Gray, M. M. A. (2007). Factors hindering the successful outcome of rural community projects. *Social Work*, 43(3), 201–208.
- Mansell, R., Steinmueller, W. E., & De Montalvo, U. W. (1999). Opportunities for knowledge-based development: Capabilities, infrastructure, investment and policy. *Science and Public Policy*.
- Mariscal, J. (2005). Digital divide in a developing country. *Telecommunications Policy*.
- McDonald, M. (2010). A brief review of marketing accountability, and a research agenda. *Journal of Business and Industrial Marketing*.
- Minalla, A. A. (2018). The Effect of WhatsApp Chat Group in Enhancing EFL Learners' Verbal Interaction outside Classroom Contexts. *English Language Teaching*, 11(3), 1.
- Miranville, A. (2019). International Committee of the Red Cross: Annual Report 2018. *AIMS Mathematics*, 4(1), 166–169.
- Mkinen, M., & Kuira, M. W. (2008). Social media and postelection crisis in Kenya.

International Journal of Press/Politics.

- Moore, S. (2010). Social Networks , Social Capital and Obesity : A Literature Review. *Obesity Prevention: The Role of Brain and Society on Individual Behavior*, 673–686.
- Naito, J., Baba, Y., Kashima, H., Takaki, T., & Funo, T. (2018). Predictive modeling of learning continuation in preschool education using temporal patterns of development tests. *32nd AAAI Conference on Artificial Intelligence, AAAI 2018*.
- Nam, T. (2012). Dual effects of the internet on political activism: Reinforcing and mobilizing. *Government Information Quarterly*.
- Neuman, W.L. (2007). *Basics of Social Research Methods in Qualitative and Quantitative Approaches*. 2nd Edition, Allyn and Bacon, Boston.
- Nkwi, W. G. (2018). Cell Phone Repairers in Cameroon, 2000-2013. *Journal for the Advancement of Developing Economies, 2000–2013*.
- Norris, P. (2005). The Impact of the Internet on Political Activism: Evidence from Europe. *International Journal of Electronic Government Research (IJEGR)*.
- Norris, P., & Curtice, J. (2007). If you build a political web site, will they come? The internet and political activism in Britain. In *E-Government Research: Policy and Management*.
- OECD. (2011). Development Co-operation Report 2011 50th Anniversary Edition. In *Development Co-operation Report 2011 : 50th Anniversary Edition*.
- Oladele, O. I. (2015). Effect of Information Communication Technology (ICT) on agricultural information access among extension officers in North West Province South Africa. *South African Journal of Agricultural Extension, 43(2)*, 30–41.
- Olivier, M., Kaseke, E., & Mpedi, L. (2008). Informal Social Security in Southern Africa: Developing A Framework For Policy Intervention. *International Conference on Social Security Organised by the National Department of Social Department, South Africa, 10-14 March 2008, Cape Town*.
- Orchard, L. J., & Fullwood, C. (2010). Current perspectives on personality and internet use. *Social Science Computer Review*.
- Ostrom, E. (2009). What is social capital? In *Social Capital: Reaching Out, Reaching In*.
- Ostrom, E., & Ahn, T. (2003). Foundations of social capital. *Science*.
- Pade-Khene, C., Palmer, R., & Kavhai, M. (2010). A baseline study of a Dwesa rural community for the Siyakhula information and communication technology for development project: Understanding the reality on the ground. *Information Development, 26(4)*, 265–288.

- Paré, D. J., & Smeltzer, S. (2013). ICTs as a catalyst for social justice? A capabilities perspective. In *Mobilities, Knowledge, and Social Justice*.
- Pew Research Center. (2018). Social Media Use in 2018. In *Pew Research Center*.
- Pierskalla, J. H., & Hollenbach, F. M. (2013). Technology and collective action: The effect of cell phone coverage on political violence in Africa. *American Political Science Review*.
- Portes, A. (1998). Social Capital: Its Origins and Applications in Modern Sociology. *Annual Review of Sociology*. In *Annual Review of Sociology*.
- Poteete, A. R., & Ostrom, E. (2004). Heterogeneity, group size and collective action: The role of institutions in forest management. *Development and Change*.
- Putnam, R. (1993). *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton: Princeton University Press
- Putnam, R. (2001). *Bowling Alone: The Collapse and Revival of American Community*. New York: Simon & Schuster.
- Ragnedda, M.(2019). *Reconceptualising the digital divide*. In Mutsvairo, B., and Ragnedda, M., (2019) (eds.), *Mapping the Digital Divide in Africa. A mediated Analysis*. Amsterdam: Amsterdam University Press, pp. 27-43.
- Ragnedda, M. (2018). Conceptualizing Digital Capital. *Telematics and Informatics*, October, 0-1.
- Ragnedda, M., & Kreitem, H. (2018). The three levels of digital divide in East EU countries. *World of Media. Journal of Russian Media and Journalism Studies*.
- Ragnedda, M., & Ruiiu, M. L. (2017). Social capital and the three levels of digital divide. In *Theorizing Digital Divides*.
- Ramani, S. (2015). The internet and education in the developing world - hopes and reality. *Smart Learning Environments*. <https://doi.org/10.1186/s40561-015-0015-x>.
- Rapley, J. (2007). The Progress of Development. *Understanding Development: Theory and Practice in the Third World*.
- Rashid, A. T., & Elder, L. (2009). Mobile Phones and Development: An Analysis of IDRC-Supported Projects. *The Electronic Journal of Information Systems in Developing Countries*.
- Rey-Moreno, C., Blignaut, R., Tucker, W. D., & May, J. (2016). An in-depth study of the ICT ecosystem in a South African rural community: unveiling expenditure and communication patterns. *Information Technology for Development*, 22, 101–120.

- Rheingold, H. (2013). Mobile Media and Political Collective Action. *Handbook of Mobile Communication Studies*, 225–240.
- Roberts, E., & Townsend, L. (2016). The Contribution of the Creative Economy to the Resilience of Rural Communities: Exploring Cultural and Digital Capital. *Sociologia Ruralis*.
- Rosenfeld, A., Sina, S., Sarne, D., Avidov, O., & Kraus, S. (2018). WhatsApp usage patterns and prediction of demographic characteristics without access to message content. *Demographic Research*, 39(1), 647–670. <https://doi.org/10.4054/DemRes.2018.39.22>
- Sabatini, F. (2008). Social capital and the quality of economic development. *Kyklos*.
- Sey, A. (2011). “we use it different, different”: Making sense of trends in mobile phone use in Ghana. *New Media and Society*.
- Sen, A. (2001). Development as freedom. Oxford Paperbacks.
- Shava, H., & Chinyamurindi, W. T. (2018). Determinants of social media usage among a sample of rural South African youth. *SA Journal of Information Management*.
- Shirky, C. (2011). The political power of social media: Technology, the public sphere, and political change. In *Foreign Affairs*.
- Shklovski, I., Kraut, R., & Cummings, J. (2006). Routine patterns of internet use and psychological well-being: Coping with a residential move. *Conference on Human Factors in Computing Systems - Proceedings*.
- Sibanda, O. (2009). e-Government in south africa: Successes and challenges in the quest to bridge the digital divide. *Proceedings of the European Conference on E-Government, ECEG*, 570–578.
- Sinha, C. (2005). Effect of mobile telephony on empowering rural communities in developing countries. *Conference on Digital Divide, Global Development and the Information Society*. http://irfd.org/events/wf2005/papers/sinha_chaitali.pdf. The Mobile Phone in Africa: Has It Become a Highway to the Information Society or Not? (2012). *Contemporary Educational Technology*.
- Sithole, M., Moses, C., Davids, Y., Parker, S., Rumbelow, J., Molotja, N., & Labadarios, D. (2013). Extent of access to information and communications technology by the rural population of South Africa. *African Journal of Science, Technology, Innovation and Development*, 5(1), 71–84.
- Southerton, D., & May, H. (2014). Mobile Phones. *Encyclopedia of Consumer Culture*.

<https://doi.org/10.4135/9781412994248.n365>

- The Digital Landscape in South Africa 2017 [QWERTY Digital Report]. Retrieved 20 June 2018, from <https://qwertydigital.co.za/wp-content/uploads/2017/08/Digital-Statistics-in-South-Africa-2017-Report.pdf>.
- Timmermans, H. G. (2004). *Rural livelihoods at Dwesa/Cwebe: Poverty, development and natural resource use on the Wild Coast, South Africa* (Master of Science thesis). Rhodes University, South Africa.
- Tsatsou, P. (2011). Why Internet use? A quantitative examination of the role of everyday life and Internet policy and regulation. *Technology in Society*.
- Tsietsi, M. (2013). *The potential and reality of the Living Lab model of ICT for Development (ICT4D) in the rural development context: The case of Siyakhula Living Lab, Dwesa, Eastern Cape, South Africa* (Masters of Social Science in Sociology thesis). Rhodes University, Grahamstown.
- Ussher, A. 2015. The Economic and Social Effects of Mobile Phone Usage: The Case of Women Traders in Accra. Dissertation presented for the degree of Doctor of Philosophy (Sociology). Stellenbosch University.
- Van Deursen, A. J., & Helsper, E. J. (2015). The third-level digital divide: Who benefits most from being online?. In *Communication and information technologies annual* (pp. 29-52). Emerald Group Publishing Limited.
- Van Deursen, A. J., & van Dijk, J. A. (2014). The digital divide shifts to differences in usage. *New Media & Society*, 16(3), 507–526.
- Van Dijk, J. A. (2005). *The deepening divide: Inequality in the information society*. Sage Publications.
- Waverman, L., Meschi, M., & Fuss, M. (2005). The Impact of Telecoms on Economic Growth in Developing Countries. *Africa the Impact of Mobile Phones*.
- Wei, R. (2013). Mobile media: Coming of age with a big splash. *Mobile Media and Communication*.
- Williams, K. H. (2005). Social networks, social capital, and the use of information and communications technology in socially excluded communities: A study of community groups in Manchester, England. *ProQuest Dissertations and Theses*.
- Woolcock, M. (2001). Using social capital: Getting the social relations right in the theory and practice of economic development. Princeton: Princeton University Press.
- Yu, Z. (2018). Third-level digital divide in English teaching and learning. *International*

- Journal of Information and Communication Technology Education*, 14(3), 68–80.
- Zinnbauer, D. (2007). What can Social Capital and ICT do for Inclusion? In *Institute for Prospective Technological Studies (IPTS)*.
- Zuckerman, E. 2004. My blog is in Cambridge, but my heart's in Accra. Ethan's Weblog.
- Zuwarimwe, J., & Kirsten, J. (2010). The role of social networks in development of small-scale enterprises in the Chimanimani district of Zimbabwe. *Agrekon*.