Digital segregation in Post-Apartheid South Africa

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Introduction

When looking at recent developments and shifts toward a global knowledge society there are basically two opposite opinions about the role that digital technology plays in the developing world: The optimists praise the benefits of free access to information and communication as tools for learning, empowerment and democratisation whereas the pessimists argue that according to the Knowledge gap hypothesis the Digital Divide between rich and poor also widens in terms of access to Information and Communication Technology (ICT).

South Africa is a land of extreme inequality that due to it's historical development, ethnical composition and political situation can be seen as a compressed arena for observing local impacts of global developments and the major question how digital technology effects inequality on a local scale within a society. Over 20 years after the end of Apartheid racial and economical disparity and segregation are still omnipresent. Also in terms of the digital world the country is widely separated. In the past years the importance of digital technology has been recognized and several efforts to improve infrastructure and distribution have been made. South Africa's Minister for Telecommunications Siyabonga Cwele even says: *„Failing to close the digital divide will do more harm than apartheid did."*

In this paper I will try to examine the current situation of the Digital Divide in the South African society and try to find out if the policies in place are adequate to bridge the borders of segregation that were forced upon the country by apartheid also in the digital world.

In the first half of the paper I will present the origin of the Knowledge Gap Hypothesis, it's developments over time and influential role in the development of the "Digital Divide" discourse. I will also analyse the implications of the Digital Divide, it's contemporary conception and approaches for evaluation of measurements to bridge the Digital Divide.

In the second part I will give an short overview about the changes in the South African media system since the end of Apartheid and than take a detailed inventory about the current situation, with a special regard towards ICT and Internet access and usage.

In the end will have a detailed look into three existing researches about the Digital Divide in South Africa and put them in context to the contemporary Digital Divide discourse and my research question.

Knowledge Gap Hypothesis

Since the upcoming of mass media communication there has been ongoing debates between progressive-optimist and cultural pessimists about the influences of theses new media and technologies. For a long time mass media had been seen as greatest potential for a worldwide access to information and a chance for democratization, whereas on the other hand it had been doomed as a tool for predomination of existing elites and a continuance of western domination.

Already in the 1920s there has been research conducted about the correlation of people's education and their preferences of "serious" over "non-serious" print media content (GRAY & MUNROE 1929). With the spreading dissemination of the radio in the 1930s great hopes were linked, that the radio would lead to a homogenization of access to information and knowledge as it did not required the skill of literacy (in opposite to reading the newspaper or a book). The head of the Office at Radio Research at Columbia University Paul Lazarsfeld examined this belief in 1940 and found out that even if people of lower socio-economic status tended to listen more to the radio, they also tended to listen more to "non-serious" content (LAZARSFELD 1940).

Based on these and other former observations in 1970 three researchers from the University of Minnesota (later called the Minnesota group) proposed their *Knowledge Gap Hypothesis* in an article called *"Mass Media Flow and Differential Growth in Knowledge"* in the magazine *"Public Opinion Quarterly"*. Their hypothesis describes the growing gap in knowledge and the structural unequal distribution of knowledge that is transported through mass media. The hypothesis claims that this gap between people with higher and lower socio-economic status grows faster, the more the information flow through mass media in a society: *"As the infusion of mass media information into a social system increases, higher socioeconomic status segments tend to acquire this information faster than lower socioeconomic-status population segments so that the gap in knowledge between the two tends to increase rather than decrease"* (TICHENOR & DONOHUE & OLIEN 1970, pp. 159-160). This so called deficit perspective interprets the differences in media consumption as a form of social inequality. They assumed that a higher level of previous knowledge, existing social contacts and a more specific usage of media by people of a higher socioeconomic status would lead to a more efficient utilization of the media-based information (TICHENOR & DONOHUE & OLIEN 1970 P. 162).

After three years the Minnesota group refined their definition after examining survey data on national and local issues from probability samples of 16 Minnesota communities. They noted that the growing of the knowledge gap it is not only depending on the socio-economic status of the individuals, but also on the nature of knowledge. In 1977 this thought was extended into the so called *"Difference Hypothesis"* by James Ettema and Gerald Kline which introduced the factor of motivation and relevance to the individual situation as important factors for the acquirement of knowledge. They criticised that the abstract kind of knowledge that the Minnesota group based their findings on were irrelevant to the life of formal less educated people.

In the following years the discussion between the deficit perspective (by the Minnesotta group) and the difference perspective (by Ettema & Kline) led to a polarization of the knowledge gap discourse: *„Some studies found that the influence of motivational variables was significantly greater than that of education (...); others did not"* (Kᴡᴀᴋ 1999 P. 387).

Since the 1970s there have been over 100 studies in the area of the Knowledge Gap Hypothesis (cf. Bᴏɴꜰᴀᴅᴇʟʟɪ 2004 P. 255; Vɪsᴡᴀɴᴀᴛʜ & Fɪɴɴᴇɢᴀɴ 1996). Two literature reviews compared 58 articles (Gᴀᴢɪᴀɴᴏ 1983) and 39 additional studies (Gᴀᴢɪᴀɴᴏ 1997) and both underscore the enduring character and existence of knowledge gaps. Also a meta-analysis conducted by Yoori Hwang and Se-Hoon Jeong in 2009 is consistent with Gazianos results. Even if the studies provided a confirmation of the general assumption of the Knowledge Gap Hypothesis, they could not finally solve the discussion about the interpretation towards the deficit or the difference perspective.

Digital Divide

With the upcoming of Information and Communication Technology (ICT) in the 1990s there has been the assumption that the general developments leads towards a information or knowledge society in which access and usage of these technologies have an important influence on individual and social success. The definition of Information and Communication technology is complex and changed over time. For the purpose of this research the definitions by Kouakou (2003), Nwuke (2003) and Osunkunle (2008) will be used. They all

agree that ICT encompasses various technologies that enhance the creation, storage, processing, communication and dissemination of digital information.

Similar to previous new technological developments ICT and especially the Internet had been praised as the medium that would finally cease the dis-integrative effects of previous mass media described by the Knowledge Gap Hypothesis. The Internet was seen as the key technology of the new information and knowledge society and even coined as *"the great equalizer"* (cf. Marr / Zilien 2010). Other research points out the outstanding role of the Internet to the convergence of various other technologies such as broadcasting, audio and video distribution (streaming), text-based communication and internet telephony (Lesame 2005)

The increasing digitalization of mass media led to the discussion about the "Digital Divide" as extension of the Knowledge Gap Hypothesis. The Digital Divide describes inequalities in access and usage of ICT between different demographic groups due to different socioeconomic levels. According to Lesame (2005 P. 3), the term Digital Divide refers to *"the gap between the access of individuals, households, organisations, countries and regions at different socioeconomic levels of ICTs and Internet usage"*. The concept can be seen on local (micro) scale within a country, society or even city and a global (macro) scale between so called developed and so called developing or undeveloped countries or regions of the world.

The origin and development of the exact term is controversial and not finally solved. Fact is, that in 1998 the US-American National Telecommunications and Information Administration (NTIA) presented a report called "New Data on the Digital Divide". The concept was brought to public attention and popularized in the local US American politics in the following years and referred to by former US President Bill Clinton as the Digital Gap. The first prominent public use of the term "Digital Divide" in a global sense could be seen in a joint speech by South African President, Thabo Mbeki, and British Prime Minister, Tony Blair, in 2001: *"... We must also find ways to close the 'Digital Divide' so Africa can share the benefits of the revolution in information and communications technology"* (The Presidency, 2001).

The public attention gained headway during the dot-com boom in the late 90s with the notion that the Internet would lead towards a parallel virtual reality that access to would be the crucial point. In a phase where the euphoria about

technology was on a common climax, the public started to get sensitive about the potential risks of a new two class society in the upcoming information age. The prevailing categorization of access to ICT was that of a binary division between "have's" and "have not's" that could be simply solved by providing access and equipment to ICT (CF. WARSCHAUER P. 11-15). This concept led to a shift in policy making from a economic and national oriented approach towards affords of key political representatives to eliminate existing access inequalities on a national and global level (cf. MARR & ZILIEN 2010) .

Social Inclusion through Technology

In the 2000s the binary differentiation between "have's" and "not have's" has been questioned by different social critics, economists, development experts, and communication scholars that claimed that the concept of provision with physical access was constructed as a simple solution by many policy frameworks bridge to digital inequalities (WARSCHAUER 2003; VAN DIJK, 2005; O'HARA & STEVENS, 2006). Since than the approaches towards the Digital Divide have transformed into models with different graduations how access to ICT can be defined and bridged. The notion shifted from connectivity in a technical term towards multi dimensional models, that pay more attention to the specific social context and needs of the users.

In 2003 Mark Warschauer developed a framework based on his long time practical experience, intense field observations, empirical research and the concept of social inclusion coined by european scholars like Askonas & Stewart (2000), Byrne (1999) and Littlewood, et al (1999). His framework "Social Inclusion through Technology" defines three dimensions that must be considered for an successful implementation of measures that aim to bridge the Digital Divide:
* Devices (physical access to equipment)
* Conduits (connectivity and digital content)
* Literacy (ICT skills, education and institutional and societal structures)

For the contemporary Digital Divide discourse Marr and Zilien in their text "Digitale Spaltung" from 2010 define three aspects of critic and three resulting critical research issues.

The first issue questions from the perspective of access research if specific

support of ICT diffusion is necessary at all. It asks if current disparities in ICT access are just a process that runs in different speeds, but in a middle-term perspective will reach a certain saturation point where access will be distributed equally.

The second issues asks from a point of appropriateness research if a concentration on equal access to ICT is enough. It shifts the focus from access and diffusion of technology towards the actual usage of technology, the provided content and it's relevancy.

The third issue aims at the implicit equalisation of access to ICT and a socially privileged status. Under the aspect of relevance it questions the differential impact research of new technologies in relation to other social influences.
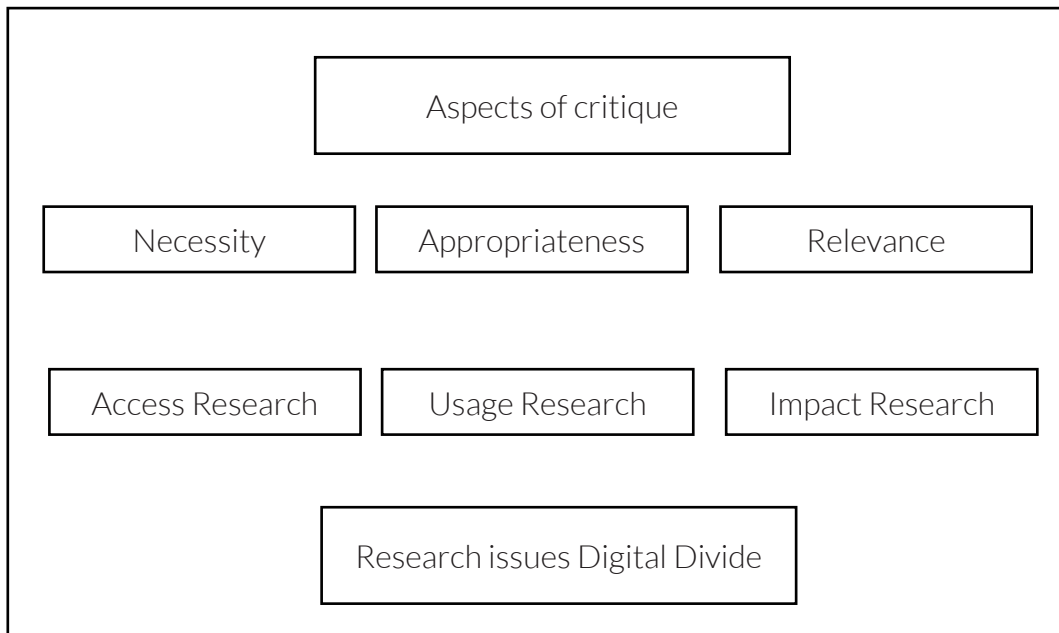

Fig. 1: Aspects of Critique and corresponding research issues

I will try to read the existing literature about the situation in the context of the three contemporary research issues defined by Marr & Zillien and in the following try to apply Warschauers framework of "Social inclusion through technology" to structure my findings.

Overview of media development and landscape in South Africa

South Africa is a highly diverse country that covers an area of 1,221,037 km (three times as big as Germany). It has a population of almost 55 million inhabitants from which around 80 per cent are African[1], 9 per cent are coloured, 8 per cent are white and 3 per cent are Indian/Asian. 39% of the population live in rural regions and 61% in urban areas. The country has eleven official recognized languages from which isiZulu (23,8%), Xhosa (17.6%), Afrikaans (13.3%) and English (8.2%) are the most common mother tongues whereas English is recognised as language of commerce and science. Inequality is extreme, with 10 percent of the population enjoying 44.7 percent of national income, while the lowest 40 percent have only 9.8 percent. (MID-YEAR POPULATION ESTIMATES 2015).

The era from 1948 until the first free elections in 1994 is know as apartheid and was shaped by a system of racial segregation enforced through legislation by the National Party (NP). Under apartheid, the rights, associations, and movements of the majority black inhabitants and other ethnic groups were curtailed, and white minority rule was maintained. Before 1994 not only there had been no genuinely black press, even reporting about important political or social developments happening in zones designated as black living areas was forbidden. Also with television only arriving in the 1970s because of to ideological beliefs of the government and no substantial foreign investments due to international isolation there had not been any chance for convergence of new technologies or rapid changes in South African media (HADLAND 2007 P. 80 -82). But when looking at the situations after the first free elections in 1994 Hadland says: *"If there is one defining characteristic of the South African media market [...] since the country's transition from apartheid to democracy, change is probably it."* (HADLAND 2007 P. 79).

The architects of the post-apartheid South African constitution envisioned a media that would combine the models of libertarian theory, social responsibility theory and development theory (MILTON & FOURIE 2015 P. 182). Therefore the whole media system basically had to be build up again from scratch. None of the news agencies from the apartheid era still operates today. All but one of the independent newspapers and only two of the journals closed down in the early to mid-1990s.

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1   In South African demographical and census data, the Black population has been described as 'Black', 'African (Black)', and currently the term 'African' is used in government policy documents.

Today South Africa has a vital and mostly independent media scene. 90 per cent of the households in South Africa have access to electricity, 82% of the households own a TV set, 77,2% a Radio. There are 8,1 telephone landlines in opposition to 149,7 mobile subscribers per 100 people.

The country has 6 public service radio stations, 18 commercial national and regional radio stations and over 60 community radio stations. There are 21 daily national, regional and city-based newspapers, 24 weekly newspapers, 25 community papers and over 400 consumer magazine titles. In South Africa there are three state regulated TV channels with another two free-to-air commercial stations and various more local and international channels offered through the pay-per-view DStv platform (OMD Media Facts 2016).

While 21,5 out of 100 households have a computer, only 3,2 out of 100 of them have a fixed Internet broadband access (OMD Media Facts 2016). Measures of Internet penetration are hard to standardize, but it can be assumed that around 50% of South Africans have Internet access on a regular base either trough a mobile device or at the workplace, universities or other institutions (Masala & Berger 2012 P. 17).

According to Alexa.com amongst the top ten total most visited websites in South Africa (Google.co.za, Google.com, Facebook.com, Youtube.com, Yahoo.com, Fnb.co.za, Linkedin.com, Wikipedia.org, Msn.com, Amazon.com) there is only one specific South Africa website (Top Sites in South Africa 2016). Amongst the top ten local South African websites there are 5 news websites (Top 20 South African Websites 2014).

Website	Unique browsers	Page views
gumtree.co.za	4 083 251	135 813 167
news24.com	3 793 963	51 546 234
timeslive.co.za	1 780 402	10 380 419
iol.co.za	1 742 232	15 312 790
msn.com	1 579 020	15 754 983
dstv.com	1 342 588	10 997 532
fin24.com	1 083 673	5 474 235
netwerk24.com	1 006 103	8 338 795
ewn.co.za	1 003 810	4 451 245
channel24.co.za	979 676	4 785 884

Fig 2. Top ten local South African Websites

Research about the current access to ICT

There have been conducted several quantitative and qualitative researches by various national and international scholars on the penetration of ICT and Internet in South Africa. In the following I will focus on three studies with different approaches to answer my research question if Digital Media in South Africa is used as a tool to overcome the legacy of apartheid or if South Africa is still divided, even in the digital world.

In his paper *"Bridging the digital divide and the impact of new media technologies on development in South Africa"* Oluyinka Osunkunle from the University of Fort Hare, South Africa attempts *"to look at various steps that have been taken towards bridging the digital divide in South Africa and the impact of new technologies on development in the country"* (OSUNKUNLE 2010, P. 373). He describes how in 1996 the government stressed the need to promote universal and affordable access to communication infrastructure and therefore set up the Universal Service Agency (USA). As one of their first action the USA received a mandate to install several so called Telecentres usually housed in containers or low-cost buildings in underprivileged areas to provide telephone services, but also computers, printer, fax and television. He compares the situation with other countries and notes that in South Africa most of them sadly do not offer Internet facilities (OSUNKUNLE 2010 P. 378 -380).

Wessie (2001), Lesame (2005) and Osunkunle (2010) also note how private companies such as Microsoft South Africa or the telecommunication providers Vodacom and MTN have been involved by providing donations and training to previously disadvantaged areas. This was in most ways done by establishing so called Digital Villages (DVs) that were provided with initial equipment and training but than were managed by members of the community.

In the second part of his research Osunkunle compares access to ICT in the years 2004 and 2005 between historically white universities (HWU) and historically black universities (HBU).

Student / Pc Ratio in HWUs and HWUs

HBUs	2004	2005
University of Fort Hare	21 : 1	10 : 1
University of Zululand	18 : 1	23 : 1
University of Limpopo	15 : 1	17 : 1
HWUs	2004	2005
Rhodes University	2 : 1	5 : 1
Stellenbosch University	1 : 1	3 : 1
WITS University	No Available Statistics	(Full access according to request)

Fig 3. Comparision of ICT access between HBUs and HWUs in 2004 and 2005

According to Osunkunle the obvious inequality between historical black and white universities is primarily *"due to the past legacies of apartheid, which strategically funded and favoured the HWUs while the HBUs suffered gross neglect and lack of essential learning facilities."* (Osunkunle 2010 P. 382*)*. It is interesting to note that in the data provided the ratio seems to worsen in all cases, apart from one (Fort Hare) in the time from 2004 to 2005 which is explained with a disproportional growing number of students by Osunkunle. Nevertheless he points out that the governments aim to correct inequalities through various initiatives is leading towards an adjustment.

The paper *"Digital inequalities and implications for social inequalities: A study of Internet penetration amongst university students in South Africa"* written in 2012 by Toks Dele Oyedemi starts with an overview of statistics about Internet access and usage in South Africa and a comparison with similar newly industrialized countries like Turkey, Mexico or Korea. It indicates that these countries have a much higher connectivity when it comes to fixed broadband access and assumes the enormous social and economic inequalities in the South Africas society mainly contribute to that fact.
Oyedemi conducted a survey amongst students of ten South African universities who he defines as *"a relevant population group for studying technology penetration; this population is a generation born in the current era of digital revolution, they are presumably early adopters of technology and are adept in using them."* (Oyedemi 2012 P. 302). 1044 participants were contributing online and offline from which 55,8% were female and 43,9%. Of the participating students 76% were Africans, 12.2% were Whites, 7.5% were Coloured, and 3.7% were Asian/Indian. The study also included several other demographic factors

such as age, place of residence and family situation. Overall the demographic composition of the participants was seen as quite representative for the whole South African population (apart from the age of course) (Oyedemi 2012 P. 305).

Ownership of a PC or a Laptop is with 63,2% quite high amongst the students compared with the nation wide percentage of only 21,5%. Race tends to influence the patterns of access and ownership to ICT enormously. With 47 per cent African students generally are least likely to have a desktop computer or laptop at home, whereas only 1,7% of White students don't have a computer at all and 33,1% even have a laptop and a desktop computer at home.
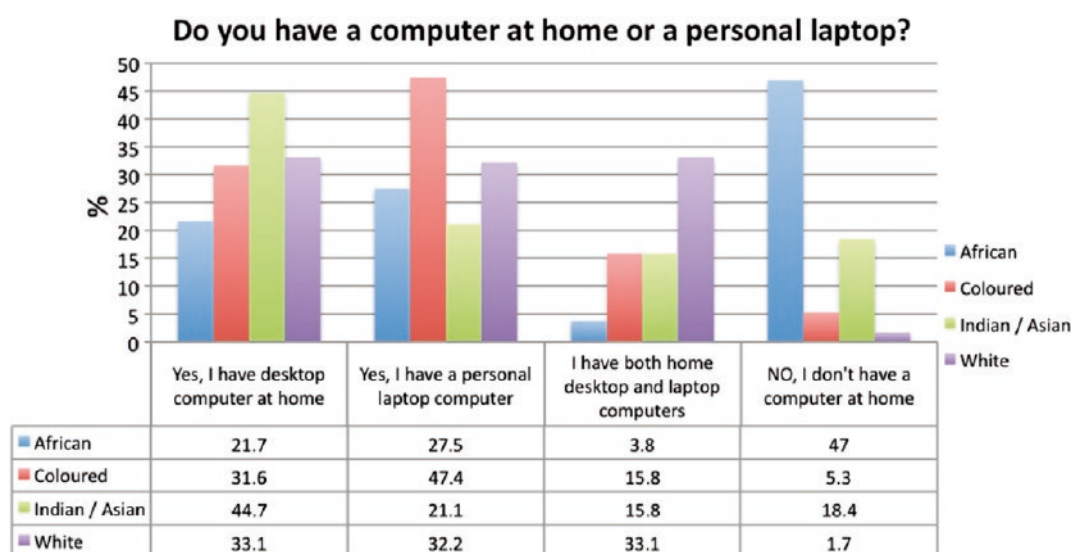
Do you have a computer at home or a personal laptop?

	Yes, I have desktop computer at home	Yes, I have a personal laptop computer	I have both home desktop and laptop computers	NO, I don't have a computer at home
African	21.7	27.5	3.8	47
Coloured	31.6	47.4	15.8	5.3
Indian / Asian	44.7	21.1	15.8	18.4
White	33.1	32.2	33.1	1.7

Fig. 4. Overview of computer ownership

Because only 36.4% of the students have Internet access at home, most of the students (60.3%) access the Internet in the computer labs on campuses. Again 76.9% of African students do not have Internet access at home compared to 11.4% of white students. When school is not in session 29.6% of the students that don't have internet at home use Internet cafés to access the Internet, 23.6% access it on their cell phones, only 6.7% of students report using the public library to access the Internet, while a meagre 1.7% access the Internet from a Telecenter. Oyedemi points out that those groups not having Internet access at home can only use the Internet within some constraints, such as dependence on transportation, staying in line to take turns, opening hours, blocking of certain websites and therefore can not utilize the full potential of the Internet (cf. Odyemi 2012 P. 312)

Do you have Internet access at home?

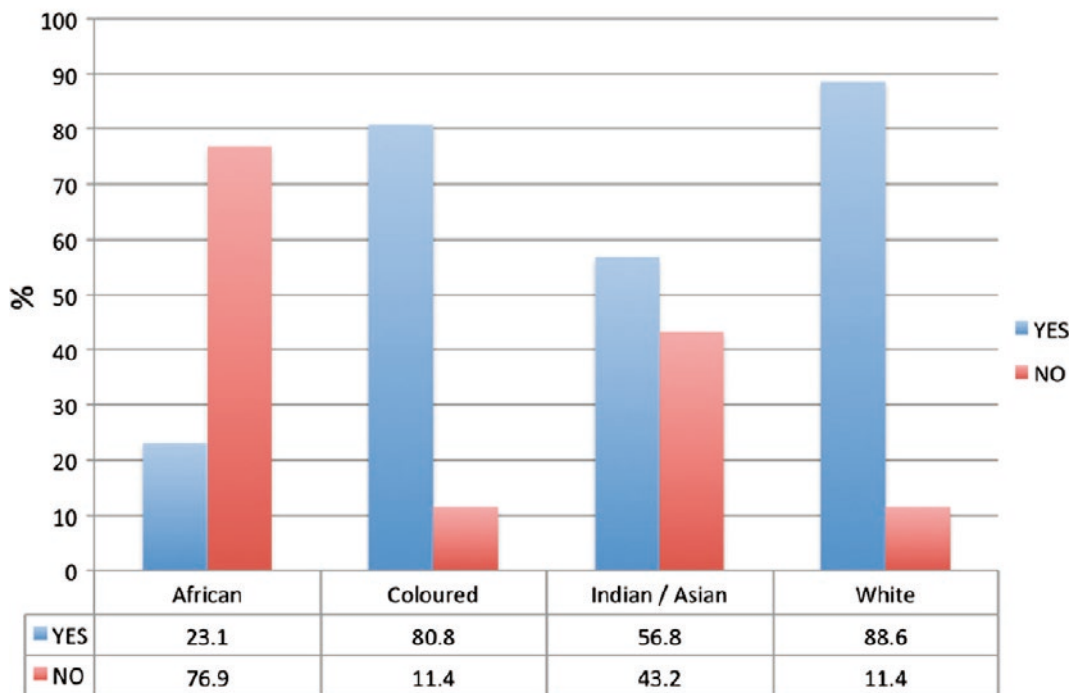|	African	Coloured	Indian / Asian	White
YES	23.1	80.8	56.8	88.6
NO	76.9	11.4	43.2	11.4

Fig. 5: Internet acces at home

In the following pages Oyedemi also takes into consideration several others factors such as residence in a rural or an urban area, poverty rate and access to household services and public assets. He concludes that, like the general pattern of inequality in South Africa, the access and ownership of ICT and the Internet has a racial tone. As a result, the occurrence of social inequalities is further exacerbated by the pattern of digital inequalities that students experience.

Wallace Chigona, Fidel Mbhele, Salah Kabanda from the University of Capetown set out in 2008 to "*Investigate the Impact of Internet in Eliminating Social Exclusion*" and scrutinize the effects of government and donor agency spendings on establishing Internet Access points (e.g. Telecentres).

For their research the authors extend the binary division between "have's" and "have-nots" into three classes of ICT users:
- Core Users (comprehensive and continuous use of ICT for information, communication and production of materials)
- Peripheral Users (limited and sporadic use of ICT for information, communication and production of materials)
- Excluded Users (non-existent use of ICT for information, communication and production of materials).

Similar to Warschauers framework of social inclusion they structured their research based on Byrne's model of social inclusion with three key points:

- Economic Inclusion: Ability to engage in an economically and socially valued activity, to accumulate monetary savings, to consume some of the services deemed normal in society.
- Political Inclusion: Ability to be involved in a collective effort to improve and safeguard one's social environment.
- Social Inclusion: Ability to have significant social engagements with friends and family.

Their cross-sectional study used qualitative research methods to unravel complex social phenomenon and to acquire deeper meanings and insights from participant observation and participation. Between July and August 2007 they conducted interviews in four communities in the Western Cape province that had the characteristics of socially excluded communities and they all had government sponsored Internet access points. The participants of the interviews where members of the communities, visitors of the centres, but also managing staff and the regional coordinator of the program. The questions were asked to find out if the participants felt the Internet supported their social inclusion under the three above mentioned aspects.

Community Centre	Serviced by:	Distance from main Cape Town City
George (Tembalethu townships)	public access terminals and a multi-purpose	Peri-urban to semi-rural setting 400km east of Cape Town
Struisbaai	Public access terminals	Semi-rural setting 250 km east of Cape Town
Bitterfontein	Internet centre	385 km north of Cape Town – representing a rural setting
Oudtshoorn (Bongo-lethu Township)	Internet centre	peri-urban setting 400km east of Cape Town

Fig. 6 Overview of the four communities,

Participants saw the Internet as a valuable communication tool from which they could benefit and they connected it with a diffuse hope that it could equip the youth with skills and resources for starting their own businesses. Only in the case of Struisbaai the Internet had a direct economic influence, by providing the fishermen of the village with valuable weather information.

The Internet enabled the participants to have information about what happened in other parts of the country, and world, and communicate and collaborate with others and therefore foster their participation in local decision making. Nevertheless many participants complained about a concrete lack of physical infrastructure and social services (Chigona & Mbhele & Kaband 2008 P. 2099)

Some of the participants reported the Internet as highly valued in their ability to network and collaborate with others. But in general participants felt they already had strong social networks and therefore did not appreciate the role of the Internet in facilitating social networks. They believed they were a part of a normal society even when they did not enjoy the same activities enjoyed in other societies that might not be socially excluded. (Chigona & Mbhele & Kaband 2008 P. 2099)

In generally there was noticed a low number of users of the centres which was partly blamed on the operating hours and the reliability of the centres. The authors noted that there was a relationship between demographic factors (i.e age and education levels) and usage patterns. Also there seemed to be a general lack of understanding of the underlying concepts and differences of ICT technologies, the Internet and it's potential values (Chigona & Mbhele & Kaband 2008 P 2098).

The results of the study argue that access to ICT does not guarantee a valuable usage and that the Internet alone does not provide economic, political or social opportunities. The authors blame the lack of introduction into ICT concepts and concrete trainings provided. They observed that the Internet's value declines without physical access to the promoted goods and services, which are not existing in the remote rural communities. The authors criticize that there *"has been no empirical evidence on the relative benefits in investment in ICT infrastructure compared to education, health, roads and dams and industrial"* (Chigona & Mbhele & Kaband 2008 P. 1). They suggest to see the Internet as a supporting technology that can help to eliminate social exclusion, but just in context with other aspects of policy making and concrete improvement of social services and infrastructure.

Conclusion

The three investigated researches focus on different areas of the Digital Divide in South Africa but also paint a very different image of the situation. In opposition to the other two researches Osunkunles opinions seem to be mostly correspondent with the official policy directions in South Africa. Osunkunles praises of the Telecentres are contradicted by the qualitative research conducted by Chigona, Mbhele and Kabanda that Internet access can not usefully be utilized when vast sections of the country still don't have access to even more basic infrastructure and social services. They even go one step further and warn that the focussing on provision of access to ICT without considering the context might unwillingly conceal the occupation with even more basic forms of inequality within the South African Society.

The efficiency of the policy making approach of the Telecentres is also undermined by the result of Oyedemis finding that only 1,7% of the students use a Telecentre to gain access to the Internet when they can't use the campus facilities. This raises a lot of policy questions for South Africa, as the Telecentre approach has been a dominant policy program for extending access to the unconnected.

Osunkunles comparison between historically white and historically black universities still shows dramatic differences (by that time) over ten years after the end of apartheid. Even if students can not necessarily be seen as representative for the whole South African society also Oyedemis study reveals a pattern of digital inequalities that reproduces existing structure of social inequalities in the country.

Only two of the three dimensions of Warschauers framework of Social Inclusion through Technology have been sufficiently taken into account in South Africas efforts to bridge the Digital Divide with varying success:
Even with different attempts of the policy making by device and conduit focussed approaches physical access and connectivity to equipment seems to be very unequally distributed. Even more the supportive societal and institutional structures seem to be not very advanced and therefore also introduction and education in ICT concepts and skills seemed to be left out.

All the critics and problems articulated by the researchers are reflected in Marr & Zilliens three aspects of an contemporary Digital Divide discourse.

Maybe the notion of the Digital Divide in South Africa needs to be revised and updated according to Marr and Zilliens definition of contemporary critics and research issues to more purposefully fulfil the bridging of the Digital Divide in the South African context. Speaking with Chigona, Mbhele and Kabanda: Access to ICT and the Internet can not alone bridge the huge inequalities in the South African society, but it must be carefully embeded in a context of economic, political and social factors.

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