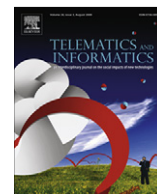Contents lists available at SciVerse ScienceDirect

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Digital inequalities and implications for social inequalities: A study of Internet penetration amongst university students in South Africa

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A R T I C L E   I N F O

A B S T R A C T

International and national data sources confirm the limited access to the Internet in South Africa. However, there is a need to study how this limited access is distributed amongst population groups in the country. This study investigates the pattern of Internet access amongst university students in South Africa. University students are 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. A survey conducted in ten South African universities reveals that beyond publicly available access on campuses – with its attendant constraints, personal/household Internet access is a challenge and it reflects a pattern of inequalities in South Africa. Bearing in mind that social and economic exclusion is the biggest challenge for South Africa, this study reveals that digital inequalities amongst students replicate the pattern of social inequalities in the country. This exacerbates existing social inequalities, specifically amongst university students in South Africa, with certain categories of students being disproportionately disadvantaged.

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1. Introduction and background of study

There is a problem of skewed and limited access to the Internet in South Africa. Recent data show there is 10.10% penetration of household Internet access and 1.48% fixed broadband penetration (ITU, 2011). Until recently, household Internet stagnated around the 7.3% penetration recorded by Statistics South Africa – Community Survey of 2007. Data from a 2007 Household ICT survey in South Africa by Research ICT Africa (RIA, 2011) show only 15% of population 16 years and older use the Internet and only 12.6% of them have email address. The data also reveal that 4.76% of households have home Internet and only 14.78% of households have home computer.

This limited penetration of household Internet and fixed broadband is problematic for a country that aspires to be "an advanced information society in which information and ICT tools are key drivers of economic and societal development" (Broadband Policy for South Africa, 2010, Section 2.1.1). Fixed broadband penetration is particularly poignant considering the penetration rates in similar newly industrialised countries and advanced emerging markets like South Africa. For example, Turkey has a penetration of 9.4, Mexico 10.1 and Chile 10.2 (OECD Broadband Portal, 2010).

A 2011 'Diagnostic Overview' of the current challenges in South Africa released by the National Planning Commission in the office of the South African President notes the observation that South Africa has lost its status as continental leader in Internet and voice connectivity. Former comparator countries, such as Malaysia, Turkey and Republic of Korea have usurped South Africa's position on global ICT indicators. For instance, Republic of Korea and South Africa were competitively placed on ITU ratings 15–20 years ago, but Republic of Korea is now a top global performer (National Planning Commission, 2011).

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However, there is an increasing uptake in mobile broadband in South Africa, albeit with limited penetration. Currently, mobile broadband has a penetration rate of 16.60% (ITU, 2011).

The problem of low Internet penetration is complex, multifaceted, and hinders social, economic and political developments. This problem resides within seemingly entrenched societal inequalities, and is exacerbated by factors of economics, inappropriate policy framework, infrastructural problems and many social ills of illiteracy as well as absence of social and cultural capital toward technology. In South Africa, social inequalities remain a chronic challenge. The 2011 National Planning Commission's 'Diagnostic Overview' of challenges in South Africa notes that the continued social and economic exclusion of millions of South Africans, reflected in high levels of poverty and inequality, is the country's biggest challenge. How this affects the pattern of access to communication technologies is important, and how technology access shapes, reflects and addresses the nature of social inequalities in South Africa also provokes research inquiry.

This study examines the current pattern of Internet access amongst South African youths, specifically the university student population, and explores the implications of social inequalities on their access pattern. The study also examines how access to the Internet is indicative of inequalities in access to other social utilities and resources that individuals and households need for daily existence in order to function and participate in society.

This group of young people is presumed to be early adopters of technology and is adept in using them. Studies have shown that access to the Internet facilitates the youth's participation in many areas of society, including political participation (Forrester and Matusitz, 2010; Calenda and Mosca, 2007; Collin, 2008), social-cultural participation (Tillfors et al., 2008; Chigona et al., 2008) as well as providing uses for educational purposes (Isaacs et al., 2004; Evoh, 2007). A study by Bosch (2009) on the use of social media for academic purposes at the University of Cape Town in South Africa shows that students believe that social media offer some benefits for academic activities and welcome their uses.

In developed countries, Internet use amongst students is relatively higher than amongst the general population. For instance, a study of Internet use amongst college students in the US notes that students are heavy users of the Internet compared to the general population (Pew Internet & American Life, 2002). The use of the Internet is a part of college students' daily routine, partly due to the fact that they have grown up with computers and the Internet is integrated into their daily communication habits. According to this study, 86% of college students have gone online, compared with 59% of the general population. Globally, few young people have access to the Internet, but the rate of access in this group is generally higher than amongst the general population. One major reason is the public access provided in schools (Halewood and Kenny, 2008).

In developing countries, there is a limited rate of access to the Internet amongst young people, and as Koss (2001) notes, this lack of access to technology will have a long term effect on the youth in developing countries, and this may further disadvantage them in effectively participating in society. Letseka's (2001) study of the ICT initiatives at the University of Fort Hare in South Africa, a rural university in the poorest province of the country, reveals a limited access to computers and the Internet. Letseka then argues that these students, already disadvantaged by many historical and economic circumstances coupled with their social conditions in this rural area, are further confronted with digital inequalities that exacerbate the range of social inequalities they experience. In a similar study, Ngulube et al. (2009) explore Internet use and literacy amongst students from formerly disadvantaged communities in a theological institute in South Africa and found that their access to the Internet was hampered by shortage of computers to connect to the Internet. Kabonoki's (2008) study of pattern of access to technology at the University of Botswana reveals that out of 429 distance learning students in a teachers' training programme, only 17% of them have computers, and only 3.7% are connected to the Internet.

In South Africa, Internet access is usually publicly available to students on university campuses. However, Internet access in schools and universities account for only 5% of Internet access locations in South Africa (Afrographique, 2011; Muller, 2011; RIA, 2011). To sufficiently tap the benefits of Internet, personal and household forms of access offer the best platform. As studies have shown, how and where people access the Internet have implications on the ability to sufficiently tap its benefits (cf kvasny, 2006). Individual and home connections provide huge advantages: they presuppose regular use and allow for flexibility of use without the constraints of public access, such as staying in line to take turn to use a computer, competing with other users – often with limited time to use the Internet, there is shame or embarrassment for users lacking adequate skills to use computers in public view of other users (ibid.), and for some students, accessing the Internet is difficult when school is not in session. Also most universities block access to multimedia and social media sites on the network due to low bandwidth capacity. Consequently, this study focuses on the varieties of Internet access available to university students with a specific attention to personal and household access.

The subsequent sections of this paper provide a brief discussion on the approaches to digital inequalities, followed by discussion of methodology. The findings of the study are presented in the section on pattern of Internet access amongst university students. This is followed by a discussion of the implications of the findings in reference to social inequalities and pattern of access to other social utilities in South Africa. This reinforces the assertion that Internet access is only one of many utilities and social resources that individuals need to be able to participate in society and access to these resources are often occasioned by social inequalities.

2. Approaches to digital inequalities

The concept of the digital divide has been applied to framing the problem of Internet access. In essence, digital divide reflects the divides between the information rich and information poor, the Internet 'Haves' and the 'Have-nots', and thus