Determinants of Digital Divide in Africa and Policy Implications

Stephen Kwamena Aikins, University of South Florida, Tampa, USA

ABSTRACT

This article investigates the reasons most African households are not using the internet and discusses the policy implications for bridging the digital divide. The International Telecommunication Union (ITU) reports that at the end of 2014, only 7 percent of households in LDCs, most of whom are in Africa, had Internet access. This study analyses data from the ITU database and other sources to identify the determinants of the digital divide in Africa. Results show that peculiar challenges such as affordability and digital literacy do influence the percentage of African households who do not use the internet.

KEYWORDS

Affordability, Africa, Digital Divide, Households, Internet Penetration, Internet Use, Mobile Broadband, Mobile Cell Phone Subscription

INTRODUCTION

This study investigates the reasons why most households in Africa are not using the internet, and discusses the policy implications for bridging the digital divide. For the purpose of this study, digital divide is defined as the gap between households with effective access to computers and the Internet and those with very limited or no access. The International Telecommunication Union (ITU, 2012) argues the Internet is improving the lives of people in developing nations and facilitating access to economic opportunities and social welfare that were previously inaccessible to the poor. Unfortunately, many African countries lag behind other developing nations regarding the number of households using the Internet. Indeed, there has been widespread concern that while the digital divide in basic services between developed and developing countries has diminished in recent years as a result of the spread of mobile telephony, digital divide in the availability of broadband networks and services may have been growing between the rest of the world and the least developed countries (ITU, 2015), especially those in Africa. In particular, 72 percent of Africans do not use the Internet (Internet World Statistics, 2015), resulting in their inability to access the opportunities and gains offered by broadband. If Africans are to equally participate and reap the benefits of the information society, the reasons for many African households not using the Internet have to be empirically investigated to find workable solutions to such challenges.

BACKGROUND

Statistics reported by the ITU (2015) suggest the presence of global broadband digital divide. According to a report issued by the United Nations Conference on Trade and Development (UNCTAD, 2009), the rate of individuals utilizing broadband services in rich nations was eight times greater than the rate in poorer nations, with the gap projected to widen in the near future. Recent ITU assessment of the global digital divide indicates that more than 70 countries have no fixed-line broadband service and more than 30 countries have less than one broadband subscription per 100 residents (ITU, 2009; 2010). Indeed, 32 of 38 African countries studied by the ITU had fixed broadband penetration of less than 1 percent at the end of 2013 (ITU, 2014).

Concerned about the inadequate broadband connectivity in the developing world, the ITU and its partners have launched series of summits aimed at connecting the developing nations. In October 2007, the Connect Africa Summit was organized by the ITU, the African Union and the World Bank, along with a number of UN agencies and other intergovernmental agencies in the Rwandan capital of Kigali. The summit proceedings set out a number of objectives for improving Africa's ICT infrastructure. Connect Africa was the first in a series of ITU initiatives that were designed to tackle the problem of low access to ICT in the developing world.

In September 2015, the United Nations (UN) General Assembly convened for the adoption of the agreed upon Sustainable Development Goals (SDGs). The outcome document, *Sustaining our World: The 2030 Agenda for Sustainable Development*, acknowledges that, 'the spread of information and communication technology and global interconnectedness has great potential to accelerate human progress and to develop knowledge societies (Broadband Commission for Digital Development, 2015). The document sets out ambitious ICT development targets in the goals for education, gender and infrastructure with ICTs recognized as the 'means of implementation' of for all SDGs.

Goal 1.1 of the Connect 2020 agenda agreed upon in 2014 by member states of the ITU states that worldwide, 55 percent of households should have access to the Internet by 2020. Goal 2.1B states 15 percent of households in Least Developed countries (LDCs) should have access to the Internet by the same year. However, the ITU (2015) argues the digital divide is proving stubbornly persistent in terms of access to broadband Internet, including the challenge of extending last-mile access to infrastructure to remote and rural communities. According to ITU, 43% of the world's population is now online with some form of regular access to the Internet. This leaves 57% or some 4.2 billion of the world's people who still do not enjoy regular access to the Internet (ITU, 2015). In the Least Developed Countries (LDCs), many of whom are in Africa, only one out of every ten people is online.

The ITU (2013) argues the basic indicator for monitoring consumer uptake regarding the number of people using ICTs worldwide is the number of households with access to the Internet. Although the proportion of households with Internet access in developing countries increased from 12 percent in 2008 to 34 percent in 2015, a comparison across geographic regions reveals that by far the lowest household Internet penetration is found in Africa (ITU, 2015). Figure 1 shows the percentage by region and development status with Internet access per 100 households in 2014. As shown in Figure 1, while 46 percent of households worldwide and 82 percent in Europe had access to the Internet, only 10.7 percent in Africa had access. Households in the Least Developed Countries, many of whom are in Africa, had only 6.7 percent access. Figure 1 also shows the gap between Africa and Asia and Pacific, the two regions with the lowest household Internet penetrations, is substantial, with a penetration rate of 39 percent in the latter, compared to the 10.7 percent for the former (ITU 2015).

Figure 2 also shows the Information Development Index (IDI) by region in 2015. The IDI is a composite index of three dimensions. These are 1) ICT Access – the availability of ICT infrastructure and access; 2) ICT Use - a high level of ICT use, and 3) ICT skills – the capability to use ICT effectively, derived from relevant skills. The index is designed to capture the evolution of the information society as it goes through its different stages of development. As can be seen from figure 2, Africa has the lowest average IDI among all regions, with 2.53 index in 2014 compared to 7.35 for Europe, 5.09

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