

Internet Going Mobile

Internet access and usage in 11 African countries

With computer and Internet penetration in most countries still very low, the mobile phone is increasingly becoming key entry point for Internet adoption on the continent. This is one of the main findings of the 2011/2012 ICT access and usage household and individual survey which reports that the emergence of Internet enabled mobile phones and lower bandwidth adaptations of applications, particularly social media, is driving the rapid diffusion of mobile internet.

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Mobile ownership has reached critical mass

Mobile phone ownership in most African countries has increased and except Ethiopia and Rwanda it is higher than 40% critical mass threshold in voice networks, believed to trigger the network effects associated with economic growth.

Social networking is substituting emails

In most of the countries analysed social networking applications (such as Facebook) through the mobile phone is higher than using it to read and write emails, indicating a substitution effect of the email with social networking platforms.

Low individual computer usage

The level of computer usage is still very low in all the countries analysed, except in South Africa and Kenya.

Internet going mobile

Although the Internet penetration in most countries is still low, more than 70% of Ugandans and 67% of Ethiopians Internet users first used the Internet on a mobile phone. In South Africa, Kenya, Nigeria, Tanzania, and Rwanda Internet is accessed through a mobile phone by 70% of Internet users.

Introduction

While the 2007/8 African ICT access and usage survey demonstrated very little access to the Internet on the continent together with a large-scale absence of computers and smart phones and compounded by the high cost of connectivity, one of the main findings of the 2011/2012 ICT household and individual survey is that the mobile phone is now a key entry point for Internet usage. Mobile Internet requires less ICT skills, less financial resources and does not rely on electricity at home compared to computer or laptop and generally fixed-Internet access. However, Internet access is uneven across the continent. While the majority of countries under investigation demonstrate increase increased mobile Internet take up, in Rwanda, Tanzania and Ethiopia Internet usage remains negligible.

Mobile access and usage

Mobile phone ownership in most African countries has increased since 2007/8 and except Ethiopia and Rwanda it is higher than 40% threshold critical mass in voice networks, which is believed to trigger the network effects associated with economic growth.

In Tanzania, Uganda and Ghana the number of users that have mobile phones capable of browsing the Internet is two to three times larger than those that actually use it for Internet browsing. Yet, together with the increasing diffusion of smartphone among the population, the mobile phone is becoming the favourite ICT device to access and browse the Internet.

Table 1: Mobile Phone Access and Usage (RIA 2011 survey)

	15+ that own a mobile phone	15+ owning a mobile phone					15+ not owning a mobile phone	
		prepaid	Mobile is capable of browsing the Internet	Use social networking (Facebook,etc)	Browse the Internet on mobile	Reading and writing e-mails on mobile	Used a mobile in the past three months	Own active SIM Card
Botswana	80%	97,4%	29,5%	18,4%	22,8%	16,5%	56,9%	3,6%
Cameroon	44,5%	99,0%	14,9%	7,7%	8,1%	4,3%	36,2%	6,1%
Ethiopia	18,3%	98,4%	6,5%	2,1%	5,1%	9,7%	31,2%	0,6%
Ghana	59,5%	97,4%	28,5%	11,3%	13,4%	9,5%	53,9%	10,9%
Kenya	74%	99,8%	32,3%	24,5%	25,3%	19,7%	93,6%	12,7%
Namibia	56,1%	91,8%	30,7%	17,3%	23,8%	12,4%	41,6%	10,5%
Nigeria	46,7%	99,0%	22,7%	15,8%	16,0%	14,6%	27,0%	3,1%
Rwanda	24,4%	90,1%	19,1%	13,6%	14,9%	13,3%	36,2%	14,1%
South Africa	84,2%	87,5%	51,0%	25,4%	27,6%	16,7%	53,2%	2,8%
Tanzania	35,8%	99,5%	19,2%	4,7%	5,2%	5,2%	53,1%	5,9%
Uganda	46,7%	98,0%	14,9%	6,7%	7,7%	6,0%	45,3%	7,0%

In most of the countries analysed such as Botswana, Cameroon, Ghana, Kenya, Namibia, Nigeria, Rwanda, South Africa, and Uganda, the usage of social networking applications (such as Facebook) through the mobile phone is higher than using it to read and write emails, indicating a substitution effect of the email with social networking platforms.

Individual computer use

The level of computer usage is still very low in all the countries analysed, except in South Africa and Kenya. Table 2 shows that in Uganda, Rwanda, Ethiopia and Tanzania less than 5% of the population use a computer and even 2% or less in Ethiopia and Tanzania.

Table 2: Individual Computer or Laptop Access

	15+ that use a computer	Location where the computer is used (multiple response)					
		Work	School, University	Library	At home	Internet Café	At a friends place
South Africa	29,1%	40,2%	22,8%	6,1%	61,1%	29,0%	20,7%
Kenya	21,2%	36,8%	40,2%	16,9%	56,0%	68,8%	45,9%
Cameroon	15,1%	20,7%	33,4%	7,7%	38,0%	63,5%	35,9%
Namibia	13,0%	60,6%	36,7%	28,5%	73,1%	28,4%	45,5%
Ghana	10,0%	42,9%	44,5%	6,2%	72,6%	54,4%	24,9%
Nigeria	7,5%	45,9%	36,1%	4,5%	73,1%	61,8%	58,3%
Uganda	4,8%	45,5%	51,4%	25,0%	35,7%	57,0%	60,9%
Rwanda	3,5%	54,5%	35,3%	18,9%	59,4%	45,2%	25,1%
Ethiopia	2,0%	34,1%	48,4%	9,2%	23,9%	28,5%	5,3%
Tanzania	1,9%	41,0%	23,6%	8,5%	47,7%	65,8%	27,8%

Individual Internet Access & Usage

Internet usage has increased in all countries under investigation in the past four years. Growth rates in East African Internet adoption are encouraging despite starting off from a very low base. Uganda, Ethiopia and Rwanda more than tripled the number of Internet users.

South Africa has the highest Internet penetration rate among all the countries under investigation, with 33.7% of the population 15 years or older using the Internet.

Namibia also managed to double its Internet users, which can be attributed to general economic growth, but also to falling prices of telecommunication and Internet access due to positive developments in Namibia's policy and regulatory environment.

Botswana had the highest growth of Internet users compared to 2007/8. Also Uganda, Rwanda and Tanzania grew Internet users significantly compared to 2007/8, when they had a very low percentage of population connected to the Internet. Ethiopia has the lowest level of Internet penetration with less than 3% of the population using the Internet. This is likely to be the outcome of policies that have prevented the kind of competition that has driven taken up in other jurisdictions.

Table 3: Individual Internet use (RIA 2011 survey)

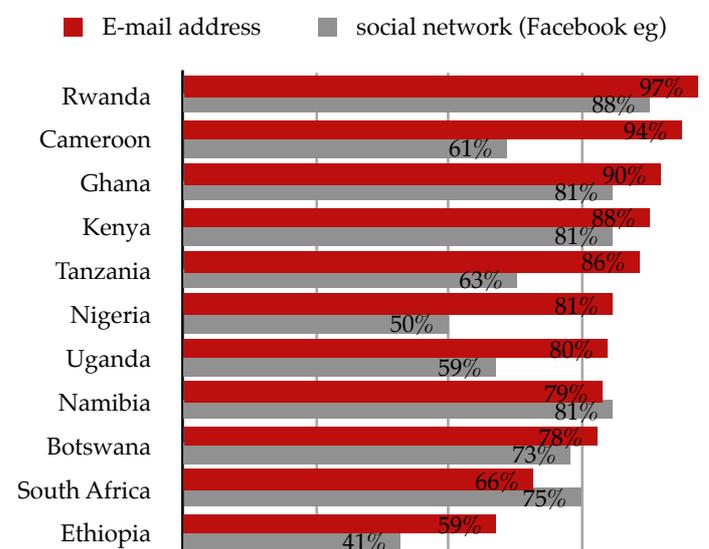
	15+ that use the Internet			Where the Internet was first used		Where did you use the Internet in the last 12 months?				
	2007/8	2011/12	Diff.	Computer	Mobile phone	Mobile phone	Work	Place of education	Another persons home	Internet Cafe
South Africa	15,0%	33,7%	18,7%	65,1%	34,9%	70,6%	35,8%	20,9%	14,3%	32,4%
Botswana	5,8%	29,0%	23,2%	70,6%	29,4%	64,1%	51,1%	32,2%	43,7%	58,3%
Kenya	15,0%	26,3%	11,3%	68,9%	31,1%	77,8%	31,4%	38,8%	38,9%	72,4%
Nigeria		18,4%		45,2%	54,8%	74,9%	29,3%	19,6%	30,3%	45,1%
Namibia	8,8%	16,2%	7,4%	50,1%	49,9%	87,3%	48,4%	36,0%	32,6%	22,5%
Cameroon	13,0%	14,1%	1,1%	82,1%	17,9%	29,7%	9,8%	20,1%	18,7%	80,0%
Ghana	5,6%	12,7%	7,1%	70,5%	29,5%	61,2%	34,6%	50,9%	34,5%	84,7%
Uganda	2,4%	7,9%	5,5%	28,2%	71,8%	81,3%	55,0%	51,2%	54,0%	74,0%
Rwanda	2,0%	6,0%	4%	70,8%	29,2%	70,9%	52,1%	30,7%	24,9%	50,2%
Tanzania	2,2%	3,5%	1,3%	45,8%	54,2%	74,7%	44,6%	24,4%	23,9%	62,8%
Ethiopia	0,7%	2,7%	2%	33,3%	66,7%	80,9%	17,4%	20,9%	3,5%	42,2%

Internet going mobile

While the first wave of Internet adoption rode on the back of desktop computers at the work place, schools and universities or public access facilities such as Internet Cafes, the second wave is sweeping across Africa through the use of mobile phones. Although the Internet penetration in most countries is still very low, more than 70% of Ugandans and 67% of Ethiopians Internet users first used the Internet on a mobile phone. In Tanzania, Namibia and Nigeria about half of the population use the Internet first on a mobile.

The growing importance of the mobile phone to access the Internet is also stressed by the responses to the question "Where did you use the Internet in the last 12 months?" Either complementarily to computer access or exclusively, above 80% of Internet users in Namibia, Uganda and Ethiopia access the Internet via a mobile phone. For South Africa, Kenya, Nigeria, Tanzania and Rwanda Internet is accessed through a mobile phone by 70% of Internet user. In most of the countries except Cameroon and Ghana the mobile has overtaken Internet cafe, historically the most common way to access the Internet.

Figure 1: Share of Internet users signed up for social media vs email address



Namibia and South Africa, countries with a significant number of early adopters of Internet and as a result high penetration levels compared to the other countries examined, are the only two countries where social networking has overtaken e-mailing as a communication tool. e-mail is still being used more by Internet users in all the other countries. In particular, in Tanzania, while 86% of Internet users have an email address, only 63% are signed up for social media. This trend is similar across all countries given the only recent rise of social networking applications such as mobile adapted Facebook Zero which allows for free communication and the Opera browser. In contrast, e-mail users are charged per mega byte. Taking into account that social media enhances the communication experience through ICT because lower language barriers, ICT skills requirement and technical training, the trend is clearly towards social networking applications overtaking email as a communication tool of choice.

Conclusions

Since the 2007/2008 Research ICT Africa household and individual usage survey, Internet penetration has increased significantly across all the countries examined. This is however off a very low base other than in the cases of Namibia, Kenya and South Africa. The first wave of Internet access was through personal computers and laptops, and through fixed lines connections (modem dial-up) - for many Africans only at aggregated access points such as Internet cafes. This however remained the access route for early adopters and the high costs of such services saw these markets rapidly saturated. With the emergence of Internet enabled mobile phones and lower bandwidth adaptations of applications, particularly social media, the mobile phone is increasingly becoming key entry point for Internet adoption on the continent. This is most evident in Nigeria, Uganda, and Ethiopia but also an emerging trend in Namibia and Tanzania. However, in terms of Internet users, Ethiopia is being held back by absence of competition and Uganda by tax and duties on telecommunications services.

Policy implications

The policy implications of this are significant. Traditional reform strategies of increasing competition in the market to increase the choice of services and drive down prices, that would meet pent up demand through improving the efficiency gap in the market are more likely to enhance access to the Internet than traditional universal service strategies that seek to aggregate users or complex mechanisms to subsidise low end users.

However, the extension of networks to remote areas that are really uneconomic to service is likely to remain a problem and reverse subsidies to competitively subsidise the extension of networks to these areas may still be required. While greater competition in some of these markets and more effective regulation of them may improve market efficiency and mop up some of the demand for services with lower prices, a real access gap may exist in some currently underserved areas where incomes may be very low and the cost of getting services are high.

If prices decrease and demand for services is met through addressing the efficiency gap within markets (through competition or effective regulation) there should be a significantly reduced need for such interventions. There is still substantial progress to be made in reducing barriers to prepaid mobile broadband, ranging from lowering cost of devices and services, reducing taxation and improving access to underserved areas. Policy in support of greater Internet access will still need to balance this new opportunity to affordably access the Internet with the demand for high speed always on bandwidth required to optimise Internet usage under particular high usage residential, educational and business circumstances than determine a country's global competitiveness.

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