

POLICY AREA:
The Digital Economy

Bridging the Digital Divide: infrastructure, skills and women's empowerment

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Abstract

Four billion people remain offline, excluded from the digital economy. Rates of internet access growth are stagnating. Short of realising its potential to empower and enable, the internet may be exacerbating existing inequalities. G20 states have committed themselves to bridging the digital divide (the Antalya Communique). It will not be sufficient simply to provide people with access. Consistent with the Hangzhou Communique, a wider focus from all stakeholders is necessary, including infrastructure capacity, affordable internet access and devices, human capacity and essential skills, and digital inclusion for society's most vulnerable. Measuring access is essential.

Challenge

action is needed to enable internet technologies to achieve their transformative potential

The G20 has committed itself to bridging the digital divide, and acknowledges that states have a special responsibility to promote security, stability and economic ties with other nations (G20 2015).

Internet technologies have the potential to transform societies. Access to online information is a crucial engine of learning and human development (GCIG 2016). The internet can realise economic gains by lowering costs, raising efficiency and increasing labour productivity (World Bank 2016). As such, the internet could be a key instrument in fulfilling the G20 German presidency's priorities of shaping an interconnected world by ensuring stability, improving viability for the future and accepting responsibility [1].

But, the evidence indicates that benefits of internet technologies are accruing unevenly, and that gaps between and within countries are growing. The better educated, well connected and more capable

have received disproportionate gains from the internet revolution (World Bank 2016, 3). Women face greater challenges than men in getting online: social norms can discourage women's access to and use of technology, and women are 14% less likely to own a mobile phone than men (GSMA 2015). Rates of access are stagnating in Africa, and workforces everywhere are being 'hollowed out' by automation (World Bank 2016, 22).

The internet is not guaranteed to fulfil its transformative potential – other, more pessimistic scenarios are equally possible (GCIG 2016, iv). The size of the ICT sector and its contribution to global GDP is still relatively modest, and the labour market is becoming more polarised as middle-skilled jobs are lost (World Bank 2016). If current trends continue, achieving the goals of sustainable economic progress in Africa, and the empowerment of women in the economy will be impeded. There are also risks to economic and political stability within and between countries [2].

Internet users in developing countries are paying more for internet access at slower speeds. Sector-specific tariffs and taxation have inhibited growth in some countries (World Bank 2016, GCIG 2016). Lack of capacity to host or serve content locally suppresses demand because of slow speeds and high cost of content (Internet Society 2016). Culturally relevant content and services – in local languages – are needed to demonstrate the value of the internet for potential users (GCIG 2016). Many people, especially women (GSMA 2015, 54), say they do not use the internet because they lack essential skills and confidence to go online (World Bank 2016, 138, note 119).

Proposal

Achieving an affordable, inclusive internet for all

Policies over the past decade have focused on building out the essential infrastructure for internet access. This work is not done, and must continue, but significant successes have been achieved. Today, 70% of the world's population is within range of a mobile internet signal (Internet Society 2016).

Now, policy makers urgently need to broaden their focus to help create an inclusive and affordable internet, which expands opportunities for innovation, empowerment and development. Concurrent action on the following issues [3] is required by relevant stakeholders.

This paper proposes that the G20 commission a small task force to create a report card on The Internet for Everyone within G20 countries, with gender disaggregated metrics on infrastructure, pricing, digital inclusion and human capacity building.

Infrastructure

Mobile access is a key enabler for innovation and inclusion in developing countries. M-PESA has brought financial services to millions of unbanked Africans (McKinsey Global Institute 2013a). Digital finance can increase the economic participation of women and those with disabilities (World Bank 2016, 96).

The spread of mobile internet remains dependent on substantial investments to grow the fixed network (GCIG 2016, 18-19). Governments and the private sector need to work together to promote sharing of networks, and laying fibre optic cables as part of other infrastructure builds, such as roads or powerlines (GCIG 2016, Internet Society 2016).

Speed matters. Dramatic changes in consumer patterns are increasing the demand for data (Bello 2015). When commercial provider Akamai began serving content in Rwanda through a local cache, demand doubled within three months – because the content loaded faster (Kende 2015).

Local data centres and internet exchange points (IXP) help to stimulate local content economies (Kende 2012): faster speeds, lower latency and reduced costs arising from the Nigerian IXP enabled IrokoTV, a local content creator, to reach a global audience with its video streaming service [4]. When the Kenyan Government joined the local IXP, the impact on speed was immediate, and tax revenues grew. This increased the government's confidence to continue investing, and in 2015 it launched a portal www.ecitizen.go.ke where citizens can pay tax, apply for passports and register businesses.

Governments and regulators, working in cooperation with all stakeholders, need to adopt policies that encourage competition and foster investment in networks, to enable access, promote innovation and development. Key capacities include local routing and hosting of internet traffic, eg through internet exchange points (IXPs), provision of public access points, and network infrastructure sharing ('dig once' policies).

Pricing

Affordable broadband connectivity is an enabler of economic growth. 40 percent of e-commerce sales in China do not replace off-line transactions -- they have unlocked incremental consumption (McKinsey Global Institute 2013b). Yet, only 15 percent of the world's population can afford access to broadband internet (World Bank 2016, 6). Women can be disproportionately affected by lack of affordability as they tend to have lower incomes and less control over spending (GCIG 2016).

Competition in mobile markets has stimulated innovative pricing plans. Some packages allow unmetered access to certain content or services, so-called 'zero-rated content'. While some argue that zero-rated content can expand internet access, others (such as the Indian Telecommunications Regulator, TRAI [5]) have raised concerns about the potentially negative impact on competition. Zero-rating also treats internet users strictly as consumers, rather than creators, potentially inhibiting innovation and deepening inequalities (GCIG 2016, 22).

Sector-specific taxes (eg for SIM card registration) can increase prices, inhibit demand and reduce returns to the public purse through a reduction in volume. India has consistently reduced international call termination charges, and has experienced exponential growth in mobile use; in contrast, many African countries have introduced a tax on international incoming calls – traffic has been stagnant or reduced since that policy was introduced (OECD 2014, 26).

Governments and regulators need to make it a priority to increase the affordability of internet services and devices, and to promote openness and fair competition. There should be no exclusive agreements to provide zero-rated content. Tax policies should not bias the market for internet services or devices; governments should, in a transparent and neutral manner, provide subsidies and incentives to consumers to use the internet.

Digital inclusion and building human capacity

Language is an access issue. Lower levels of English writing and reading are correlated with a lower propensity to own a computer or use the internet (Quast 2016). Yet, more than 50 percent of web content is in English, and lack of universal acceptance has depressed demand for internationalised domain names (IDNs) (EURid, UNESCO 2016).

People have little incentive to go online if there is no useful content in a language they can understand (GCIG 2016, 26). When Google began to support Setswana in Botswana, it had a remarkable impact in

neighbouring South Africa, where the language is also spoken. Because local language content could be found in search results, content creators started to provide more content in Setswana. Research shows that employment and computer ownership both increased substantially (Quast 2016).

Women in developing countries are 25 percent less likely than men to have internet access. Doubling the number of women and girls online would generate an estimated USD 13 to 18 billion in GDP across developing countries. (Dalberg Global Development Advisors 2012). New technologies enable women to participate in the labour market, as entrepreneurs, in online work, or in business process outsourcing (World Bank 2016). Women cite lack of technical literacy and confidence as key barriers to getting online (GSMA 2015). In Kenya, AkiraChix reaches out to “geek girls” to encourage girls to enter ICT professions which have rising demand for labour (World Bank 2016, 34).

Governments and other stakeholders need to enable SMEs and women to create locally relevant content. Education and digital literacy programs are vital to provide tomorrow’s software engineers, local content providers, and policy makers with the skills they need to contribute to and benefit from the information society as creators not just consumers.

More than 1 billion people have disabilities, and 80 percent of them live in developing countries (World Bank 2016, 15). People living with a disability are half as likely to have internet access (World Health Organisation 2011), yet can lead more productive lives with the help of accessible technologies – voice, text, and gestures (World Bank 2016, Box 2.4).

According to the UN High Commissioners for Refugees, nearly 65 million refugees and displaced persons are living without reliable internet and mobile connectivity. This cuts off a vital lifeline for communication with loved ones, and ‘constrains the capacity of refugee communities to organise and empower themselves, cutting off the path to self-reliance’ (UNHCR 2016, 8).

All stakeholders need to work in their respective roles to increase access for society’s most vulnerable such as refugees and persons with disabilities. Legislation, regulation, incentives and procurement policies can require adherence with relevant technical standards. Private sector hardware and software providers should include accessibility standards in their products.

Measuring access

Having up-to-date, high-quality information is vital for guiding appropriate policy responses. Knowing how many people are connected, how they are connecting and the impact of being connected can help all stakeholders make informed decisions about how to address digital divides. Those engaged in addressing women’s empowerment call for gender-disaggregated data (GSMA 2015, UNESCO 2015, Dalberg Global Development Advisors 2012).

National statistics agencies should actively collect information on Internet access, disaggregated for gender. Governments should invest more resources and work in cooperation with the relevant stakeholders to define consistent metrics.

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https://www.g20.org/Content/EN/Artikel/2016/11_en/2016-11-30-g20-kernbotschaften-im-kabinetten_en.html

2. 'The next wave of economic dislocations won't come from overseas. It will come from the relentless pace of automation that makes a lot of good middle class jobs obsolete' (Obama, Farewell Address, 2017 <https://www.nytimes.com/2017/01/10/us/politics/obama-farewell-address-speech.html>)
3. Recommendations are summarised from the Global Commission on Internet Governance report One Internet (CIGI and Chatham House, 2016).
4. IrokoTV announced a deal with Netflix in April 2015 – success at home stimulated international demand and raised awareness of Nollywood <http://techcabal.com/2015/04/15/irokotv-has-announced-it-is-providing-content-for-netflixs-african-section/>
5. 'India bans Facebook's Free Internet Service because it violates net neutrality' Motherboard, 8 February 2016, <http://motherboard.vice.com/read/india-bans-facebooks-free-internet-service-because-it-violates-net-neutrality>

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