

WTPF
Background
Series

WTPF Strategic Dialogue

Session One: Building out Broadband

13 May 2013

This Session explores the broadband revolution and examines the role of broadband as critical infrastructure in the modern global economy. The role of broadband for promoting economic growth, productivity and trade is by now well-established. Although access to broadband networks may be rivalrous and excludable, the information and knowledge which can be provided via broadband services are potentially public goods with global reach.

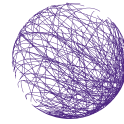
Today, it is increasingly clear that no country can do without broadband infrastructure. Worldwide, however, two thirds of global citizens remain to be connected to the Internet. Opinion is divided, however, as to whether broadband service represents a basic need, fundamental right or luxury. This will be the main focus of Session 1 of the Strategic Dialogue.

Broadband infrastructure comprises the digital highways of today's information economy. Broadband is now a critical infrastructure in any modern economy, as vitally important as water, transport or energy networks. Indeed, in modern economies, broadband infrastructure may often be integrated with water, transport and energy networks in intelligent, distributed networks to enable the more efficient dissemination of resources.

It is today broadly recognized that investments in broadband ICT infrastructure can boost countries' international competitiveness, create high-skilled jobs and strengthen firms, making them more agile. It is increasingly clear that developing countries cannot afford to miss out on the development, growth and trade opportunities offered by broadband infrastructure. Failure to invest in broadband infrastructure and services risks excluding countries not only from access to the information revolution, but also from real opportunities in economic growth and job gains.



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There is to date a large body of research supporting positive economic returns and strong externalities to investment in telecommunications and ICTs [e.g. Roller & Waverman (1996)¹, Waverman, Meschi & Fuss (2005)]. Depending on the structure of an economy², broadband infrastructure offers the potential to deliver substantial economic growth and create jobs on a large scale by:

- **Increasing GDP** through direct growth in the ICT sector (e.g., World Bank, 2009³) or by greater access to and trade in new services or new markets abroad. Cyber-trade or E-commerce was estimated as worth US\$ 8 trillion in 2010 (McKinsey Global Institute, 2011⁴)
- **Generating a higher proportion economic growth or % gain in GDP** (e.g., McKinsey, 2011)
- **Reducing transaction costs** e.g., through greater volumes of transactions and disintermediation
- Facilitating better, faster, **more informed decision-making** throughout an economy, enabling markets to function more efficiently and raising producer incomes
- **Increasing labour productivity** e.g., Booz & Company, 2009⁵ found that a 10% increase in broadband penetration in any year is correlated with a 1.5% increase in labour productivity over the following five years⁶
- **Resulting in a net gain in jobs** e.g., the *Connected Nation Report 2008* found that, in the US, a 7% increase in broadband adoption could result in a 2.4m extra jobs worth US\$ 134 billion, while the McKinsey Global Institute (2011) study found that 2.4 jobs are created through Internet industry for every job lost

¹ Roller & Waverman (1996) found strong positive growth effects of investment in telecommunications, with a 10% rise in fixed-line penetration resulting in a 2.8% rise in GDP. "Telecommunications Infrastructure and Economic Development: A Simultaneous Approach", WZB Discussion Paper: <http://skylla.wz-berlin.de/pdf/1996/iv96-16.pdf>.

² Many studies distinguish between high-income and low-income economies as structurally different. Some authors have suggested that raising ICT penetration has greater beneficial growth impact for developed countries, given their service-oriented economies and educated workforce ready to make intensive use of ICTs. However, other authors contend that ICTs could have a greater growth impact in developing countries, once critical network penetration is achieved (e.g. World Bank, 2009).

³ Qiang & Rossotto (2009), "Information and Communication for Development Report 2009", World Bank (2009).

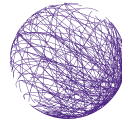
⁴ "Internet Matters: The Net's sweeping impact on growth, jobs, and prosperity", McKinsey Global Institute (2011) found the Internet accounts for 3.4% GDP & 21% of GDP growth in G8 plus S. Korea, Sweden, Brazil, China & India: http://www.eg8forum.com/fr/documents/actualites/McKinsey_and_Company-internet_matters.pdf.

⁵ Source: Booz & Company (2009), "Digital Highways: The Role of Government in 21st-Century Infrastructure", co-authored by Roman Friedrich, Karim Sabbagh, Bahjat El-Darwiche and Milind Singh.

⁶ Note that this argument has been hotly debated.

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IS BROADBAND SERVICE TODAY A BASIC NEED, PUBLIC UTILITY, FUNDAMENTAL RIGHT OR PRIVILEGE?

Beyond broadband's tangible benefits of greater economic growth, new jobs, trade and productivity, the knowledge, information and education services offered by the Internet are now public goods⁷ with global reach⁸.

Opinion still differs widely as to whether broadband service – which is the underlying platform for accessing the Internet – is today a basic need, public utility, fundamental right or privilege, with perspectives differing sharply according to background and economic reality.

Recent research by INSEAD suggests that the majority of Internet users (70-80% of online Internet users) in different industrialized and emerging countries agree (partially or strongly) that Internet access should be a fundamental right for all people (**Figure 1**)⁹. Overall, around 20% of users did not have a defined opinion on the matter. This result probably reflects the indispensable status of the Internet and the services it enables and provides to users in those countries.

Today, broadband infrastructure provides access to information, which is often a public good and essential to all forms of economic activity and good governance. The greater availability of education and healthcare information and services made possible by the Internet suggest that people around the world could benefit from enhanced access to information over broadband.

In many countries, inherited legacy policy and regulatory frameworks are being updated to take into account the positive externalities and cross-sectoral benefits of broadband. This is happening through:

7 “Knowledge as a Global Public Good”, Joseph Stiglitz, available at: http://cgt.columbia.edu/files/papers/1999_Knowledge_as_Global_Public_Good_stiglitz.pdf.

8 Some have argued that telecommunications and the Internet are themselves global public goods; however, most agree that it is the knowledge and information provided over the Internet which are non-rivalrous and non-excludable, rather than broadband networks per se which may be considered:

- Excludable (e.g., operators and ISPs can cut off consumers from using the service, if they fail to pay or transgress their terms and conditions of service); and
- A ‘rival’ service (e.g., consumption of bandwidth by some consumers may reduce the user experience of others).
- Positive externalities – a public good may or may not have positive (versus negative) externalities, in which the total utility is greater than the sum of private utility derived from its consumption.

9 The New Internet World, INSEAD/World Economic Forum, available from: http://www3.weforum.org/docs/WEF_GITR_The-NewInternetWorld_Report_2011.pdf.

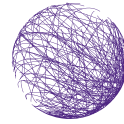
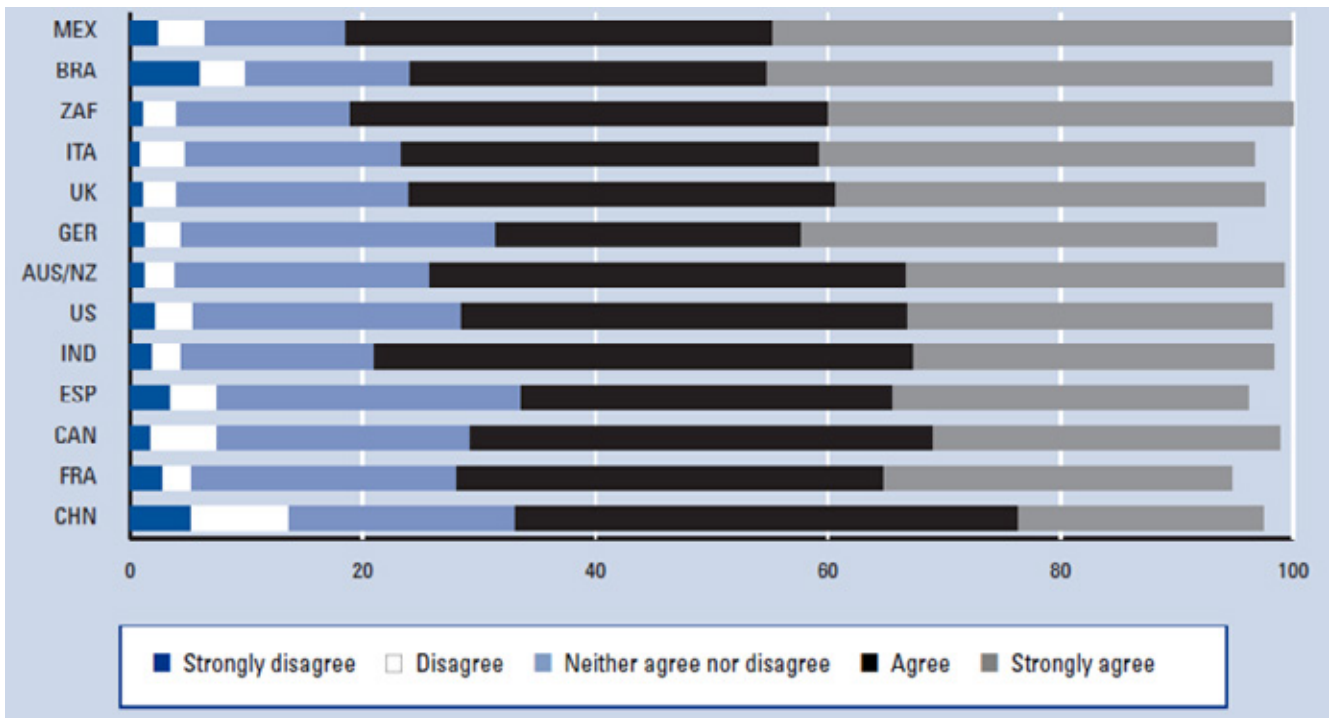


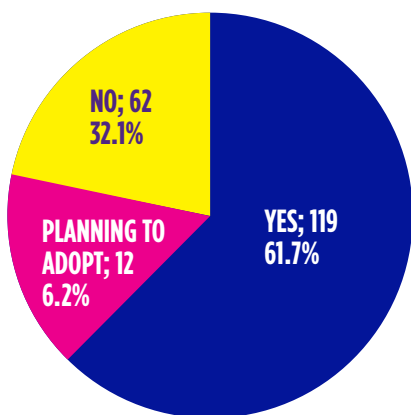
Figure 1: Access to the Internet should be a Fundamental Right for All People



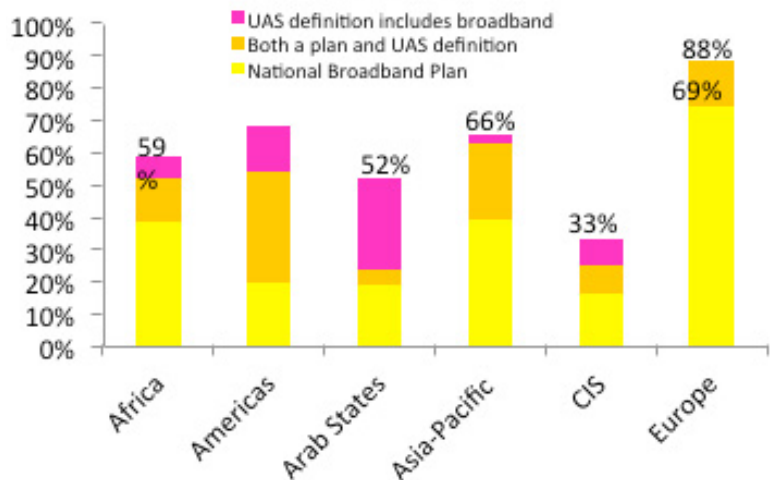
Source: The New Internet World, INSEAD/World Economic Forum, available from: http://www3.weforum.org/docs/WEF_GITR_TheNewInternetWorld_Report_2011.pdf.

Figure 2: National Broadband Policy and Regulatory Frameworks

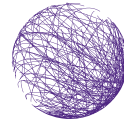
COUNTRIES WITH A NATIONAL POLICY, STRATEGY OR PLAN TO PROMOTE BROADBAND, MID-2012



WHICH POLICY INSTRUMENTS ARE USED TO PROMOTE BROADBAND?



Source: Bottom left – “The State of Broadband 2012”, the Broadband Commission for Digital Development: www.broadbandcommission.org; Top and bottom right graphs – ITU World Telecommunication/ICT Regulatory Database.



- The formulation and introduction of National Broadband Plans; and/or
- Updates to universal service definitions and universal service instruments; and/or
- Integration of broadband aspects in other policy instruments (e.g. Health Plans; Education Plans).

Research by the ITU/UNESCO Broadband Commission for Digital Development show that by mid-2012, 119 countries had National Broadband Plans or policies in place (**Figure 2, left**), while countries used a range of regulatory instruments to promote the roll-out and deployment of broadband (**Figure 2, right**).

This opening Session of the Strategic Dialogue explores the broadband revolution, examines broadband as critical infrastructure in the modern global economy and the role being played by various stakeholders.

Some questions meriting exploration in this Session include:

- Is broadband service today a basic need, public utility, fundamental right or privilege?
- What is the role for public policy, and do National Broadband Plans really matter? Who is really driving change – policy-makers, operators, content providers, or end-users?
- Has government provided strong policy leadership in the area of broadband – do you have any examples? How has the private sector responded or has it taken the initiative in its own right?
- Is there widespread acceptance of the importance of broadband infrastructure and services for attracting investment and boosting economic competitiveness in your country? Or are they under-prioritized in your view, and why?

This opening
Session of
the Strategic
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explores the
broadband
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