



FULFILLING THE PROMISE OF INTERNET CONNECTIVITY



The reach of Internet connectivity is both breathtaking and a cause for concern. In assessing its progress, the principal aspects to consider are access, use, and impact.

The Internet footprint covers 90 percent of the Earth's population, and companies like Google and Facebook are working on expanding Internet infrastructure to the remaining 10 percent through innovations like high-altitude balloons, drones, and laser technology. Despite the considerable reach of Internet access, however, only 40 percent of the global population actually uses the Internet. That means half the world's population is covered by Internet infrastructure but is not connected.

A critical question is to understand what accounts for this sharp divide between access and use. Participants at the roundtable identified a number of relevant demand and supply factors including awareness, affordability, relevant content and language, and quality of connections. Behind these factors are a number of important determinants, including energy infrastructure, education and literacy, government regulation and policy. These factors not only explain why many people choose



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Those people who are online are disproportionately urban, educated, wealthy, and male—in Sub-Saharan Africa, almost twice as many men are online as women; and in South Asia, it is three times as many.

to remain offline, but point to a large, and growing, difference in the quality and openness of the Internet for users across the world. This introduces an additional layer of inequality in connectivity.



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Roundtable participants took opposing positions on the merits of achieving greater use at the cost of reduced openness of the Internet. Proponents argued that providing people with limited access to the Internet is better than none, that rationing access is a logical response to a world of broadband scarcity, and that limited access provides an on-ramp to broader access in the long run. On the other side, advocates of net neutrality argued that restricted openness goes against the spirit of the Internet as being open and equal, and risked creating monopolies and stifling competition, noting that web access occurs increasingly through closed-network apps as opposed to browsers, which narrows the scope for discovery.

Another factor that is critical to raising Internet use concerns trust. Connectivity is at its core a social relationship, or at least depends for

its functionality on social interactions that are trusted. One interesting suggestion on how to enhance trust is to reverse the power and structure of the traditional end user license agreement by empowering the user to decide on the use of personal data: whether for the social good by accredited organizations, for marketing goods and services to the user, or to verify the user's identity and transaction.

The adoption of digital connectivity by government can itself be an important catalyst for Internet use. At the roundtable, various participants lamented the slowness of government to adapt to digital connectivity. One pithy verdict was that "people are talking to their government using twenty-first-century technology, but government hears them on twentieth-century technology and gives them a nineteenth-century response."

The impact of Internet connectivity is undoubtedly hard to judge. Roundtable participants agreed that its potential impact is profound and, combined with the other components of the digital economy, as disruptive as the Industrial Revolution, in theory. Yet we are only in the early stages of this revolution, and the impact to date has been less than expected, especially in the developing world. Moreover, the downsides of connectivity, which were less anticipated, have begun to emerge. There is a lot that remains to be understood about the impact of connectivity and what policies might mitigate its negative effects.

Evidence of the positive impact of Internet connectivity is mounting. Connectivity expands people's reach to information, knowledge, and goods, services, and markets. It allows people to communicate—instantaneously, to diverse and heretofore-unknown audiences and communities, and with pictures and video. It allows social activists to organize for advocacy. It shifts power relations and gives access and power to the marginalized.

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Internet connectivity can be a driver for reducing isolation, both economic and social. It provides women confined to home and neighborhoods with opportunities for employment and access to knowledge, services, and markets. It has been linked to a decline in domestic conflict and an uptick in women's decisionmaking role in the household.

Connectivity creates businesses and jobs. New business ventures can be launched at minimum cost and can readily access suppliers and customers. Digital businesses expand market access and segment markets into more discrete units, and permit more perfect price discrimination. Market reach to isolated areas and populations is combined with the ability to offer services anytime and anywhere. The Internet also expands access to capital and is a source of new financial instruments. Whereas the developed countries are bemoaning the changes wrought by the new so-called gig economy—employment based on short-term gigs, consultancies, and projects—in developing countries this has long been the standard means of employment and Internet platforms are viewed as systematizing the gig economy experience.



CONNECTIVITY CREATES BUSINESSES AND JOBS.

Finally, Internet connectivity reduces social and political isolation. It brings the government and citizens into closer contact, providing the tools for citizens to hold public officials accountable, facilitating transparency—allowing public officials to communicate with their constituents and allowing constituents to provide instantaneous feedback. It facilitates participatory development through crowdsourcing and the growth of social and political movements. It alters leadership structures and facilitates the decentralization of government and organizations.

Many of these positive impacts, however, are reversed by other effects. One negative aspect is the creative destruction that always accompanies market innovation. At the same time as the Internet is creating new economic opportunities, it is



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making many existing jobs and businesses redundant. Although connectivity can liberate and empower women and provide access to new information and communities, it also can amplify existing cultural behaviors. Connectivity is expected to be a liberalizer, but individuals tend to use it in ways that reinforce existing beliefs and behavior.

The biggest disappointment of connectivity has been in the political space. Social media has been attributed both with advancing and retarding

democracy. Autocrats have caught up with citizens and are learning to use social media for their own ends. The so-called Islamic State, which has deployed connectivity to expand its reach and appeal, is the most telling example of the ability to use social media for evil purposes. Indeed the last decade has seen the space for civil and political freedom constricted in many countries. And though connectivity enables political and social movements, the lack of structure and organized leadership undercuts their sustainability.