

## Theory

# Goodbye Digital Divide, Hello Digital Confusion? A Critical Embrace of the Emerging ICT4D Consensus<sup>1</sup>

**Hernan Galperin**  
hgalperin@udesa.edu.ar  
Director  
Center for Technology and Society  
Universidad de San Andrés  
Vito Dumas 284  
Buenos Aires (B1644BID)  
Argentina

A new consensus is emerging among scholars and practitioners concerned with mobilizing new information and communication technologies for development goals. It is based on platform agnosticism; it shuns best practices in favor of policy diversity and celebrates alternative ICT development paths. It is more modest in its aspirations, and it recognizes that development priorities might be different across countries. It discourages stand-alone ICT4D initiatives in favor of complementary investments tied to specific development goals.

This is good news, as the old consensus—let’s call it the digital divide consensus for its focus on redressing connectivity gaps between countries—had clearly become an inadequate guide for researchers and policy makers, alike. One of its key shortcomings was the implicit assumption that all countries would converge on a similar path of ICT infrastructure development and adoption.<sup>2</sup> This yielded the various efforts (the Digital Opportunity Index, the Digital Access Index, the Network Readiness Index, and so on) to measure whether a country was catching up or lagging behind on the road to digital prosperity.<sup>3</sup>

Building on recent empirical evidence, we now know that multiple ICT development paths are possible, depending on a number of institutional and infrastructure legacy factors that constrain choices by governments and market players. This is hardly shocking news. Economists and development scholars have long documented that the rich nations of today have achieved their privileged status in remarkably different ways.<sup>4</sup> By framing the central problem as a question of how much country A is lagging country B in a particular index, the digital divide consensus tended to overlook the variety of ways in which network-based societies are emerging.

There are at least three ways in which the emerging consensus is renewing the ICT4D policy and research agenda. The first is platform agnosticism, or the recognition that the important thing is not to connect people and businesses to specific networks or devices, but to deliver ICT services and increase access opportunities in the most cost-effective manner. Consider the story of mobile telephony. While critics have dismissed the deployment of mobile telephony in the developing world as a second-best option (e.g., Zittrain, 2008), there is increasing evidence that mobile

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1. The title is borrowed from Rodrik (2006).

2. See, for example, infoDev (2000).

3. For a discussion of the various indices, see Minges (2005).

4. This goes back to Gerschenkron (1962). For more recent work, see Hall and Soskice (2001).

## GOODBYE DIGITAL DIVIDE, HELLO DIGITAL CONFUSION?

networks are addressing the connectivity requirements of people and businesses in emerging nations at a fraction of the cost and time required to replicate the fixed infrastructure present in developed markets.<sup>5</sup>

Over the past decade, we have witnessed the blossoming of new applications and business models that are allowing mobile subscribers in the developing world to retrieve information, conduct transactions, and access multiple services using simple interfaces and low-end handsets—in essence, replicating many of the functionalities of traditional Internet connectivity in a much more cost-effective manner. And as mobile networks are upgraded and advanced terminals become cheaper, distinctions based on access platforms and end-user devices will become further blurred. The digitalization of broadcasting networks is also opening up a number of opportunities for cost-effective deployment of ICT services to large populations, a field that is being aggressively pursued by countries like Brazil.

The emerging consensus celebrates these alternatives. It acknowledges that ICT infrastructure development may come in many flavors, and that developing countries are pursuing a variety of strategies, depending on the constraints and opportunities offered by their geography, their socioeconomic environment, their infrastructure legacy, and their competitive landscape (or lack thereof). It also recognizes that effective policy and regulation come in different flavors. This is a second point of departure from the existing consensus, and in particular, it is an important departure from the best-practices mindset that has guided much telecommunications policy analysis since the mid 1980s.

There is no question that the lowering of barriers to market entry and the promotion of competition created the conditions for much-needed private investment in the telecommunications sector across countries. Behind these rather general trends, however, one finds a variety of regulatory tools and initiatives that reflect local opportunities and constraints. There is agreement that regulators in emerging markets are often ill-equipped to follow the lengthy administrative procedures required to address such complex issues as the setting of proper interconnection rates and the design of effective

universal access programs. There is also increased evidence that regulatory shortcuts are often needed—and certainly preferred over inaction.

Likewise, there is also now a vast literature about the limitations of market incentives in spurring private investments where markets are thin and demand is difficult to predict or aggregate (Galperin, 2005; Munte-Kunigami & Navas-Sabater, 2010). The new consensus welcomes smart state investments that address market failures or help unlock private capital for large infrastructure projects such as undersea cables and national fiber backbones (Kim et al., 2010).

The third and final dimension concerns expectations. We now know that the digital divide consensus was overly optimistic about the potential of ICT4D. The new consensus is a lot more modest in its aspirations, and it emphasizes that ICT4D initiatives are unlikely to affect much change in the absence of complementary initiatives and related investments, ranging from upgrading power grids to enacting school curriculum reform. On the other hand, the priorities emerging in the new consensus should still be assessed critically, or we may enter yet another cycle of theoretical overpromises, overfunding of pilot projects, and disappointment about the development contribution of new ICTs.

Consider, for example, the recent attention given to reforming the global intellectual property regime (IPR), and in particular, to copyright law. There is no question that, as net importers of software, audiovisual content, and other intangibles protected by copyright, developing nations would benefit from a reduction in the scope of copyright law, and that they may be ill-advised to follow developed nations in strengthening protection for rights owners (Maskus & Reichman, 2004). Yet, given that intellectual property is neither seriously enforced nor relevant for the strategies of market agents in much of the developing world, the development gains that might accrue from a more open IPR environment are highly uncertain (or potentially limited to specific groups, such as academics—hardly a top priority for development efforts).

Another prominent issue in the emerging consensus is network neutrality. The networks being built in the developing world often deviate from

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5. For a more detailed discussion, see Samarajiva (2009).

open network principles, as they oftentimes allow operators to exercise control over content, services, or terminal equipment. Yet one also needs to recognize that net neutrality often comes at a cost. For example, open network principles discourage mobile operators from subsidizing terminal equipment, and it is hard to imagine how Latin America would have achieved mobile penetration levels of over 80% without subsidized handsets. The costs and benefits of openness will certainly need to be revisited as mobile networks evolve, as they are expected to, into carriers of much of the IP traffic in emerging markets. Yet ex ante open requirements may obstruct investments and business innovations appropriate for the connectivity demands of emerging nations.

To conclude, the emergence of a new consensus about policy and research priorities in the ICT4D field was long overdue, and it should thus be welcomed. Critically, the new consensus recognizes that the key question is not how to connect people to a specific network through a specific device, but how to extend the expected gains from new ICTs (lower transactions costs, better delivery of government services, timely information retrieval, and so on) to the most citizens and businesses, and in the most cost-effective manner. While poised to reenergize the field, this emergent consensus also presents a need to carefully assess some of its principles and priorities against empirical evidence. Failure to do so will result, once again, in unrealistic expectations about the potential of ICTs to unlock development. ■

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