Editorial

The Velocity of Rebirth

Every once in awhile, we are provoked to reconsider established notions. For example, it is standard practice to compare a country's per-capita gross domestic product (GDP) against its ICT penetration levels. The results of this time-honored method are not surprising—for instance, the richer the country, the higher the Internet penetration.[1] The Internet–GDP ratio has become a truism we take for granted, but there are certainly other metrics that must be considered. And the realities of many African countries continue to call this to our attention.

This issue's Forum section includes an article by Arleen Seed that suggests another indicator of ICT success—one that is not revealed when we study only the per-capita levels of Internet penetration and economic development. Broadly put, Seed's account of Rwanda's ICT growth suggests that those countries with the weakest conditions can, if the environment is right, enjoy the fastest growth rates. After emerging from a disastrous genocide, Rwanda's ICT growth is practically sprinting toward Kenya's comparatively robust conditions.[2] Seed predicts that at its current growth rate, by 2010 Rwanda may catch up to slower-moving Kenya.

Her point triggers two immediate reactions. The first is that scholars should pay more attention to the growth rate of a country's Internet diffusion—rather than exclusively to its relative global standing—and closely study the conditions that enhance its acceleration. Indeed, this framework may be particularly instructive when conditions are the weakest, such as in immediate post-conflict situations that lack the strong institutions, regulatory frameworks, and other conditions we know are important. Secondly, we wonder whether the Rwanda–Kenya example is simply a unique comparison with little relevance elsewhere in Africa or other regions.

We decided to put Seed's theory to a simple statistical test by measuring the growth rate, or "velocity," of Internet adoption across all the nations of sub-Saharan Africa. The calculations were easy enough. We took the last 10 years (1996–2006) of International Telecommunication Union data on per-capita Internet subscribers, fit the yearly points to a line for each country, and then compared the slopes of the lines to determine each country's velocity of Internet adoption.[3] The results are interesting and do seem to confirm Seed's initial hypothesis. Consider the Figure, in which most countries are clumped down at the bottom of the graph—so close together their differences are virtually

1. Of course, there are some interesting anomalies. Small island economies tend to perform better than their economic numbers would suggest.

2. It is all a matter of perspective, though; Kenya's ICT strengths weaken when compared with the situations in high-income North American or European countries.

3. Not a method we particularly recommend nor expect would survive the ITID peer-review process; good thing this is simply an editorial!

undistinguishable. But look at the few standouts; Rwanda is there (RWA), and more dramatically, so is Burundi (BDI). The Central African Republic (CAF), Sierra Leone (SLE), post-apartheid South Africa (ZAR), and Ethiopia (ETH) show remarkably fast growth, too.

One country, however, stands well above the pack—the small West African nation of Liberia (LBR). If any country represents the horrors of recent civil conflict in Africa, and the promises of a post-conflict rebirth, it is Liberia. The years of protracted civil war devastated the nation and its ICT infrastructure. Today there is not a single working landline telephone; the entire copper network was destroyed or looted. But there is a strong mobile sector with vigorous competition between four operators.

This result is very timely; as we write this editorial, Liberia is preparing to launch a major week-long series of events highlighting the nation's ICT capacity and ambitions. E-Liberia: Vision 2010 will bring together the sponsorship and involvement of local stakeholders, multinationals (Cisco and Microsoft), donors (The World Bank and USAID), and even one of our universities (Georgia Tech).

Returning to this issue of *ITID,* in "The Lost Sheep of ICT4D Literature," Gerard Raiti also asks us to reconsider the way we have approached ICT research. He evaluates the current state of ICT4D literature and concludes that the field "needs a Beethoven, a Michael Jordan, or a Leonardo Da Vinci" to help focus the direction of this multidisciplinary and often overwhelmingly development-focused, Western-influenced field. He proposes adding media studies and Habermas's public sphere theory in particular, to the theoretical mix to explore how telecenters might be used to empower African citizens to participate in their governments.

Like Raiti, Robin Mansell and Kaarle Nordenstreng emphasize the role of information and communication in development, and for them, especially in achieving social justice. In "Great Media and Communication Debates—WSIS and the MacBride Report," the authors examine the insights of the 1980 UNESCO report, *Many Voices, One World,* and apply them to recent debates about the evolution of information societies and the successes and failures of the 2003 and 2005 World Summit on the Information Society (WSIS) events. They look to the wider political and economic context in which the WSIS occurred and recommend that broadly based coalitions of actors translate research into political action.

Continuing the media studies theme of the Raiti and Mansell articles, Griswold et al. explore how Internet penetration in Nigeria and Ghana affects the public's reading habits in "Glamour and Honor: Going Online and Reading in West African Culture." Coincidentally, the velocity of Internet penetration changed the very nature of their research on the country's literary culture, forcing Griswold and her coauthors to also consider the Internet's effects on traditional print media such as books and newspapers (i.e., Do they compete? Do they support each other? Do they not engage at all?). They ultimately find that each of these media—one associated with trendy socializing and the other associated with traditional notions of honor and wisdom—occupies a distinct cultural position.

Another look at cultural reactions to increased ICT adoption is Thomas Molony's "'I Don't Trust the Phone; It Always Lies': Trust and Information and Communication Technologies in Tanzanian Micro- and Small Enterprises." Molony's article explores the role of trust (e.g., the need for direct, personal interaction) in Tanzania's business culture through three case studies of ICT adoption and further applies these findings to nonbusiness relationships.

In "The Triumphant Consumer? VoIP, 'Little Smart,' and Telecom Service Reform in China," Irene Wu discusses the success of two services at driving policy change. At one time illegal, both VoIP and

Little Smart (cheap, wireless phone service) are examples of the challenges policy makers may face if governments do not reform fast enough to keep up with the velocity of technological innovation, market growth, and consumer demand.

Finally, let's return briefly to the plots in the figure below. Although we are applying a linear growth model to a scenario where we would usually expect logistic growth (i.e., the famous S-shaped curves common to diffusion-of-innovation models that start slow, grow exponentially, and then slow again with market saturation), we can use these results to extrapolate into the future of African ICT development. So, according to our model, when will Rwanda catch up to Kenya given its current growth rate? In 2019, not far off of Seed's prediction. But when will Liberia reach Kenya? The year 2087! Clearly this is too far in the future to do Liberia much good, and the country would be wise to promote non-linear growth.

Liberians, and the world community more broadly, are aware of how essential Internet diffusion can be to the success of many post-conflict countries. But thinking beyond the usual truisms—like beyond the Internet/GDP ratio—can add new insights and pathways to our understanding of information technology's role in international development.

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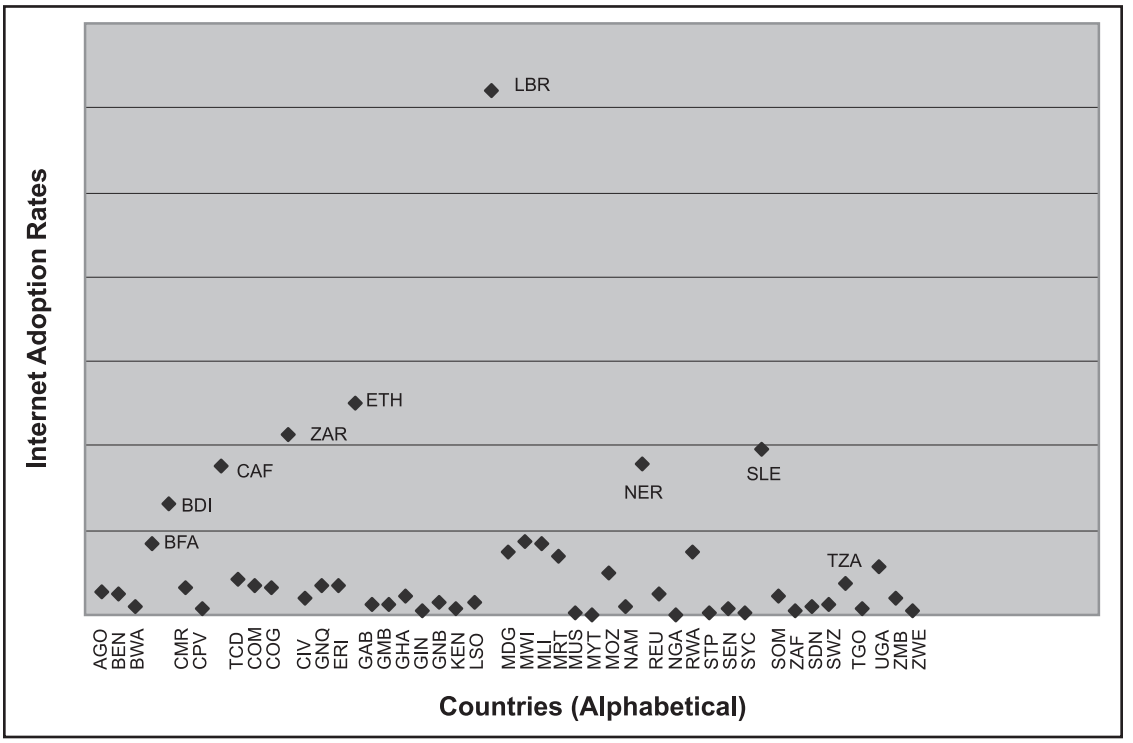

Figure. Velocity of Internet Adoption by Country, 1996–2006

Source: Authors' analysis of ITU World Telecommunications Indicators Database. Country codes include: Burkina Faso (BFA), Burundi (BDI), The Central African Republic (CAF), Ethiopia (ETH), Liberia (LBR), Niger (NER), Rwanda (RWA), Sierra Leone (SLE), South Africa (ZAR), and Tanzania (TZA).