Chapter VII
Towards an ICT4D Geometry of Empowerment:
Using Actor–Network Theory to Understand and Improve ICT4D

Donna D. Rubinoff
University of Colorado – Boulder, USA

ABSTRACT

This chapter introduces actor-network theory (ANT) as an approach to the analysis and improvement of the use of ICT for development (ICT4D). It argues that ANT helps to conceptualize ICT beyond the technological systems of the conventional "digital divide." ANT supports thinking about the sociotechnical networks that incorporate humans, hardware, institutions, texts, and policies, and so forth, into ICT networks. It also supports the inclusion of marginal actors, helps to address development problems from the perspective of those populations, and traces the networks of power that supports their participation or exclusion. The author hopes that the ideas in this chapter will promote further discussion on the topic and the refinement of an analytical framework for ICT4D.

INTRODUCTION

The term "digital divide" was originally coined to connote differential access to ICT along class lines between global north and south. Yet this "divide" persists even in the developing world, where ICT access tends to be privileged within government bureaucracies and technical/university settings.

In rural spheres where development organizations and telecenters provide the main access to ICT, there still exists differential access to technology by professional status, education, gender, age, disability, and so forth. The digital divide often persists even in progressive development organizations, where access to digital tools and resources can be barred by institutional and system gates

and obscured by invisible and often unintended social and organizational barriers. Ultimately, the terminology of the "digital divide" sets up preconditions for incorrect analysis and solutions to these problems. The term suggests a binary opposition in which people either have or do not have direct access to communications technology. If they do, they win, if the don't, they lose. Solutions tend to be centered on providing direct access, training people to use computer hardware and other direct solutions. Yet this epistemological framework simplifies the nature of peoples' engagement with ICTs, trivializes the wide array of background conditions that contribute to both development success and failure, and in the end masks the systemic nature of the whole process of using ICT for development (ICT4D). It also limits the possibility for analytical frameworks that can demystify these systems and promote enhanced ICT4D for a wider range of constituents.

The need for attention to this problem is not a new topic. In a recent World Bank seminar on the WSIS Gender Caucus (World Bank 2005, September 14), Eva Rathgeber spoke on the need for "new conceptual frameworks and methodologies to better understand relationships between ICTs and gender." She showed that when the WSIS Gender Caucus issued a request for proposals for research grants on three topics including: 1) documentation, analysis, and evaluation of efforts to mainstream gender into ICT Policy; 2) applications and content; and 3) theories and methodology; there were no responses in the third category.[2]

This is not to say that academic researchers have not addressed the issue of theoretical and methodological frameworks with which to analyze structures and impacts of ICT4D. A survey of recent research shows that researchers in the ICT4D arena explicitly positioned their work in an array of theories. Noteworthy among these are conference publications on "Women's ICT Based Enterprise for Development" held at the Institute for Development Policy and Manage-

ment, Manchester, UK, in June, 2006. The research team of Morgan, Heeks, & Arun explored theoretical/analytical approaches to ICT4D in their three publications from 2004, including an enterprise approach, a livelihoods approach, and a feminist theoretical perspective (Heeks, Arun, Morgan, 2004; Arun, Heeks & Morgan, 2004; Morgan, Heeks, & Arun, 2004). They further developed this analysis in Heeks, Arun, Morgan (2005). Morgan (2006) has also addressed this topic with her discussion of new institutionalism as an analytical/theoretical framework; and Litho's recent (2006) analysis stems from social construction of technology and African feminist standpoint theories. All this work is important in terms of evaluating theory for the best approaches to understanding how ICTs support various development objectives. It calls for a deeper analysis of the institutions of ICT4D, and Morgan's work on the new institutionalism is especially useful in this regard. It highlights the regulative, normative, and cognitive power relations that shape information flow and management across the structures of formal and informal institutions. In addition, this approach allows for agency and transformation in the construction of networks. Morgan's work is an important move towards unpacking the "micro social" relations and structures of power that regulate flows of information and power across ICT4D networks.

All of the aforementioned works on theoretical frameworks move the analytical framework project ahead, but towards a specific focus on the analysis of ICT4D (as opposed to more theoretical frameworks), the landscape is sparser. In the most recent commentary on this problem along the context of gender analysis in ICT4D, Hafkin & Huyer (2006, pp. 4-5) point out that "ICTs have been used to promote social development only during the past few years, and little large-scale analysis of the results is yet available, concerning either gender equality or the benefits and results of these projects." They go on to argue, however, that "there are some promising signs of

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