



## Chapter I

# The Access Rainbow: Conceptualizing Universal Access to the Information/ Communications Infrastructure

Andrew Clement  
University of Toronto, Canada

Leslie Regan Shade  
University of Ottawa, Canada

*This chapter presents the Access Rainbow, a seven-layer conceptual model of access to the information/communications infrastructure intended to strengthen public interest perspectives in current 'information highway' policy discussions. In particular, it aims to provide the basis for a workable definition of 'universal access' and point to concrete steps for achieving this ideal.*

A prime impetus for the discussion of universal access is the rapid incorporation of digital networking into the information/communication infrastructure (ICI) for conducting a widening range of social, economic, educational, and political activities. While the benefits are mixed, powerful forces are propelling the shift toward network-based transactions. Acknowledging that in many cases narratives about the advent of network technologies are simplistic, deterministic and mythical in scope (Mosco, 1998), this work assumes that digital networks will continue to be increasingly central to daily life and anticipates a time when they are regarded as a mundane, but vital part of the social infrastructure. We consider how the promise of network services may be achieved in a socially equitable and productive fashion. We seek to develop and apply a pragmatic model of access to the ICI which respects and

embraces public interest perspectives. We discuss several issues central to defining access, present a seven-layered model that addresses the key requirements of an access definition, and, finally, show how the model has been applied in policy discussions in Canada.

## Defining Access

Defining access to the ICI is difficult for several reasons. While access is consistently identified as a key principle in policy discussions, it is not an end in itself. Access simply enables further activities that can only partially be specified beforehand. There are three main questions to address: 1) Access for what purposes?; 2) Access for whom? and 3) Access to what?

### Access for what purposes?

In broad terms, enhancing the ICI holds the promise of enabling all citizens to participate more fully in all aspects of economic, social, cultural and democratic life (Clement, 1998; Karim, et al., 1998; Schon, et al., 1998; Dutton, 1999). A central notion is the possibility of participative interaction with others. In contrast with existing electronic media, digital networks allow people to be creators as well as recipients. In many situations, computer-based information and communications technologies (ICTs) offer significant advantages over conventional media for accessing, creating, exchanging and sharing information in the conduct of daily affairs, thus benefitting the social individual in each of his or her major roles as consumer, producer, caregiver and citizen. There are myriad possibilities: exchanging gossip, buying goods, checking the weather forecast, making a living offering information services, playing games, learning a new language, building a community resource file, assessing medical treatments for an ailing parent, contributing to civic debates, and so on. This list could be very long, and ultimately the purposes of access can never fully be defined because citizens should be free to invent their own uses and hence find new value in the infrastructure.

### Access for whom?

A brief answer to this question is easy—access for all, at least for all citizens who need and wish to make use of the ICI. To the extent that network services are valuable, no one should be excluded from the opportunity of participating in their advantages. Furthermore, the benefits for everyone expand as more people become reachable through the network. As Borenstein notes, “The utility of [digital] networks appears to rise exponentially with the number of interconnected users” (1998, p. 6).

However, not all citizens are alike, and we need to recognize the diversity of people and their particular access needs. In part this involves recognizing the obstacles to access that are characteristic of various ‘populations,’ most notably age, gender, income, education, disability, language, ethnicity, geographic location (urban vs. rural and remote), and nationality (developed vs. developing countries) (Castells, 1996; Golding, 1996; Ebo, 1998; Loader, 1998; Shade, 1998). Not

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