Chapter 19
Policy as a Bridge across the Global Digital Divide

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ABSTRACT

This chapter assesses how public policy can be used to bridge the global digital divide, especially in developing nations. First, the chapter characterizes the Internet technologies encompassed within the digital divide according to dimensions of individual socioeconomic characteristics and service provider infrastructure characteristics. Then, the chapter develops a set of technology policy dimensions as they affect those two dimensions, using case vignettes from India to illustrate policy actions. Finally, the chapter makes policy action recommendations to bridge the digital divide, including investments in education and literacy, e-governance, intermediary services, infrastructure, and regulation.

INTRODUCTION

This chapter assesses how public policy can be used to bridge the global digital divide, especially in developing nations. First, the chapter summarizes current understandings of the digital divide, and then characterizes the Internet technologies encompassed within the phenomenon. These characteristics are organized according to the dimensions of individual socioeconomic characteristics

and service provider infrastructure characteristics. In this, the chapter aims to contribute to the overall understanding of the digital divide as a global phenomenon, especially by adding the dimension of service provider infrastructure to the description of the global digital divide. Second, the chapter develops set of technology policy aspects as they affect those two dimensions, using examples from India to illustrate policy actions. Thus, the chapter attempts to contribute to our overall understanding of technology policy, as well as to identify those aspects of policy that are relevant in the

context of the digital divide. Finally, the chapter makes policy action recommendations to bridge the digital divide.

The global digital divide is defined here to mean the gap between those who have ability to access and use information and communication technology (ICT) and those who do not. This definition is fundamentally consistent with numerous other definitions (Bagchi, 2005; Chinn & Fairlie, 2007; James, 2004; others). ICT can be understood to include both telephony (such as landline and mobile) and computing-based Internet technologies. In both the United States and India, telephony is distinct from Internet technology, in terms of both characteristics and relevant policy, and much has been written about telephony. This chapter devotes itself to better understanding the digital divide through characterizing the Internet technology component of ICT.

Access to ICT can have long-lasting benefits for quality of life as individuals can use ICT to develop personal interests, further education, receive job training and, ultimately, enhance their ability to enjoy their lives (Chandrasekhar, 2003). As Chandrasekhar points out, "… a widening digital divide can only widen social divisions and tensions." (2003, p. 82). In addition, those who suffer from adverse effects of globalization (poor, illiterate, uneducated and unskilled laborers) tend to fall into the same segment of the population that is on the have-not side of the divide. As such, globalization has only served to add to the widening of the digital divide by compounding the great inequities forced on the poorer sector of the population (Chary, 2007). Thus, the implications of the digital divide on social equity can be so grave that governments simply cannot afford to ignore what may be the most important social justice issue of the day. Therefore, we hope here to achieve a more nuanced understanding of the global digital divide, which can be used by governments to take more targeted policy actions aimed at bridging the digital divide.

BACKGROUND

The characteristics of the global digital divide can be generally grouped into two basic categories (See Figure 1). The first category describes the characteristics of the individuals who are affected by the digital divide – that is, those who fall on either side of that gap in the ability to access and use: users and potential users. The second category of characteristics describes those institutions (private or public) offering the required services to users. These service providers (and potential service providers) may be offering backbone services (such as network capacity) or last-mile services (such as end-user access) (Chandrasekhar, 2003). The combination of these two categories helps us better understand and define the global phenomenon known as the digital divide.

As a note, the digital divide is a dynamic phenomenon, changing with time (Bagchi, 2005). Therefore, while we hope to attain a conceptual understanding of the characteristics of the digital divide, how we measure the digital divide must be revisited continually to accommodate the evolution of the phenomenon.

Individual Socioeconomic Characteristics

Those individuals who fall on either side of the digital divide are separated by having access to and use of the Internet. Certainly, access and use are not mutually exclusive. In fact, having access to technology tends to facilitate the use of it (Hoffman & Novak, 1998). How we measure access and use, however, is complicated. Two common measures of access to and use of the Internet are penetration rates of computer ownership and Internet subscription (Chinn & Fairlie, 2006; Grondeau, 2007; Hawkins & Hawkins, 2003).

In 2001, the United States ranked among the highest in the world with 62.50 computers per 100 people and 50.15 Internet subscribers per 100 people while India ranking considerably lower

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