

## Chapter XIV

# A Social Shaping Perspective of the Digital Divide: Implications for E-Business

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### ABSTRACT

*The digital divide is a phenomenon associated with disparities among groups and societies in the adoption and diffusion of electronic information and communications technology (ICTs) and electronic-business (e-business) practice. The chapter argues that, in rhetoric, at least, the innovation, adoption and diffusion of ICTs bear the hallmark of technological determinism (i.e., that of a technical imperative) in which social, economic and political factors are underplayed. By way of contrast, the chapter considers the merits of a social-shaping approach to the analysis of innovation in ICTs to assess the prospects for ameliorating the digital divide between developed and developing countries and for stimulating economic development in the latter through the promotion of e-business. The chapter suggests how future research on the social shaping of ICTs, e-business and the digital divide between developed and developing nations can meet the challenges discussed herein.*

### INTRODUCTION

In the wake of initiatives, such as those promoted by then Senator Al Gore during the 1992 U.S. presidential campaign and the Bangemann report (Europe and the Global Information Society), a

series of national-level policies have been produced, aiming to a greater or lesser extent to create information-based societies, including some occurring in developing countries. In Europe, these include the French Information Autoroutes, the Danish Information Society 2000 and the

United Kingdom's Information Society initiative. In Asia, one may identify Singapore's Intelligent Island strategy, Malaysia's Vision 2020, Japan's high performance information infrastructure plan, China's NII 2020 policy and Vietnam's IT 2000, amongst others (Ducatel, Webster, & Herrmann, 2000, pp. 1-17). Yet there remains a marked disparity between developed and developing countries in their take up and ability to use the ICTs central to the creation of information societies, the growth of e-business and electronic commerce (e-commerce), and thence economic development.

This chapter explores the extent, nature and factors affecting bridging of this digital divide, drawing on and reviewing the literature related to "technological determinism" and the "social shaping of technology," whilst identifying implications for e-business and economic development in developing nations. Vestiges of the former, which tends to be treated as theoretically passé, remain pervasive, whilst social shaping approaches have yet to provide any effective analysis of the digital divide as it applies to developing compared with developed countries. The chapter is concerned that technological determinism is pervasive in public accounts and rhetoric associated with the creation of information societies and the bridging of digital divides. For example, Mark Malloch Brown (2003), former Administrator of the UN Development Programme claims that it is ICTs that are "transforming societies" and calls for ICTs "to deliver revolutionary breakthroughs ... giving the world's poor access to the global economy" (Brown, 2000). Bearing this in mind, a second concern of this chapter is to assess the contribution of social shaping approaches to understanding the complex of factors and processes implicated in technology development, particularly as this relates to the adoption and diffusion of ICTs, e-business development and the bridging of the digital divide between developed and developing countries.

The general position regarding social shaping may be enunciated as follows: social processes shape not only the form and features (i.e., the content) of particular technologies, but also the patterns, general characteristics and direction of technologies across whole areas of development and application (Russell & Williams, 2002). Over time, the social shaping approach has been applied to the reshaping or "reinnovation" of technology "on the ground," in the home, office or on the factory floor, and how these activities feed back into upstream activities linked to public policy or corporate strategy decisions about the designs, purposes and uses of potential new technology (MacKenzie & Wajcman, 1985; Russell & Williams, 2002). Central to the social shaping approach is the idea that there are "choices" (though not necessarily conscious choices) inherent in both the design of individual artefacts and systems, and in the direction or trajectory of innovation programs (Williams & Edge, 1996).

Clearly, this type of approach could be of great relevance to analysis of developing countries' efforts to develop information societies and to close the digital gap with developed countries. Yet, a search of major databases, such as ISI Web of Knowledge, yields nothing in this vein. In April 2004, the authors entered all permutations of the key terms "social aspects," "social shaping," "digital divide," "information society," "technology," "e-business" and "electronic business" into ISI Web of Knowledge, searching for research published since 1995. One hundred and two articles were recorded in the database, which admittedly is not exhaustive of work done in the area, but tellingly, not one paper could be said to encapsulate the interaction of technology, policy and society associated with social shaping research in a developing country context (i.e., as distinct from, say the PICT studies of "wired cities" in developed, mainly Western European nations and the STAR project assessing the "digital revolution" in the European Union (EU). There is, therefore, an opportunity, explored in this chapter, to apply

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