

## **Chapter XI**

# **From the “Analogue Divide” to the “Hybrid Divide”: The Internet Does Not Ensure Equality of Access to Information in Science**

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## **ABSTRACT**

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*This chapter investigates whether the internet has improved information access for scientists who did not participate fully in the transfer of information in pre-internet times. Several empirical analyses over the last decade have nurtured the hope that the internet had this effect. We argue that these findings were mostly due to the low level of dissemination of the internet in the early 90s. Based on a large European data set, we show that internet use is consistently higher for male, highly recognized and senior researchers. This suggests that the internet has become the dominant means of communication in science—to such an extent that any scientist, regardless*

*of whether they are established or not, has to use the available internet tools in order to communicate effectively. The previous “analogue divide” of information access has become a “hybrid divide” including the analogue and the digital communication media.*

## Introduction

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The OECD (2001) defines the catchword “digital divide” as “the gap between individuals, households, businesses and geographic areas at different socioeconomic levels with regard both to their opportunities to access information and communication technologies (ICTs) and to their use of the internet for a wide variety of activities” (p. 5). This gap has been identified for several socioeconomic groups, like people with disabilities, people on low incomes and from households with certain features (e.g., single parent households), the unemployed, people with relatively low levels of skills and educational attainment, people with literacy difficulties, people belonging to racial and ethnic minority groups, people living in remote rural locations and, last but not least, senior citizens (see, e.g., National Telecommunications and Information Administration [NTIA] & Economic and Statistics Administration [ESA], 2000; OECD, 2001; Work Research Centre, 2003).

In analogy with this concept we use the term “analogue divide” to describe the disparate use of information sources and information access in pre-internet times. In science, this analogue divide was pronounced before the internet spread: Scientists that were outside or at the fringe of an invisible college<sup>1</sup> did not receive as much information as its participants, and they obtained information with delays (Cole & Cole, 1973; Crane, 1972; Cronin, 1982; Mulkay, 1977). The system of information exchange discriminated against scientists that were younger, female, at lower positions in the hierarchy of their research organization, of lower professional recognition, working at less renowned universities or in developing countries.

The spread of the internet has raised hopes that information access for those disadvantaged groups would improve and that the internet would contribute to creating a more equal dissemination of information and communication in science (Hilgartner, 1995; Finholt & Olson, 1997; Walsh & Roselle, 1999). In this chapter we investigate whether these hopes have turned into reality. Most empirical analyses over the last decade have revealed more intensive internet use by less established groups of scientists. The data analyzed in this chapter do not support this result: On the contrary, internet use is consistently higher for the scientific establishment. We argue that the internet has become the dominant

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