

Digital Divide, Gender, and the Indian Experience in IT

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INTRODUCTION

Information technology is being perceived as the magical wand and the harbinger of prosperity as it can guarantee access to global markets and enable direct foreign investment and e-commerce. Several projects aim at bringing information technologies to India with a belief in the transforming potential of IT. However, these technologies have created a digital and gender divide. In this article, attempts have been made to look into the digital divide and the constraints that women share by gender specifically in India.

India is a multilateral, multilingual, and multireligious society with many subdivide based on region, ethnic groups, class, and caste. The digital divide and gender has become yet another component of this diversity. In India, women comprise 14% of the IT industry and 26% of the business processing outsourcing (BPO) workforce. The total workforce of IT and BPO is made up of approximately 70 million people (<http://www.ciol.com>). At the lower experience level (about 3 years), about 19% of the workforce comprises women. At senior levels, women constitute less than 6% of the workforce (<http://www.dqqindia.com>). This indicates that few manage to reach the top level, and the majority of them remain at lower levels as computer or data-entry operators.

The gender gap in the digital divide is of great concern as it is directly linked to socioeconomic development. A major developmental issue of the coming decades will be the access and use of IT (Organization for Economic Cooperation and Development, 1989). Policy makers of both industrial and developing countries have agreed that IT is one of the fastest growing industries and is likely to be the largest by the turn of the century (Kraemer, 1994). Hence, if women are not actively present at

all levels in this growing industry, then we would see marginalization that could undermine the advances made by women in other fields in the 20th century.

BACKGROUND

Colonial rule had deprived India of an industrial revolution. After gaining independence in 1947, India had adopted an economic policy that largely favored public-sector expansion. In this strategy, private and foreign capital were strictly controlled by the government. India's opting for a mixed economy also reflected the country's approach to high-technology industries (Harindranath, 1999). During this period, multinationals such as International Business Machine (IBM) and International Computer Limited (ICL) leased obsolete technology to India. Though the state-owned firm Electronics Corporation of India Ltd. (ECIL) entered into the indigenous manufacturing of computers in 1971, it could neither fully embrace the technology nor satisfy the growing demand of the country (Subramanian, 1992). In 1978, private-sector entrepreneurs entered the computer-manufacturing industry, which was supported by the national computer policy of 1984 (Government of India [GOI], 1984).

This above-mentioned policy was totally reversed in 1991 when the government of India adopted the New Economic Policy (NEP), which was further refined with stabilization and structural adjustment measures as advocated by the World Bank and International Monetary Fund (IMF). In 1998, GOI constituted a national task force on IT and software. The recommendations of this task force provided the directives, incentives, and concessions for the establishment and expansion of the IT industry in India. Accordingly, IT companies were exempted from income tax for 10 years. Further more, the govern-

Table 1. Knowledge professionals employed in Indian IT sector

Category	1990-1991	1996-1997	1999-2000	2000-2001	2001-2002
Software export sector			110,000	162,000	170,000
Software domestic sector			17,000	20,000	22,000
Software-captive in user organizations			115,000	178,114	224,250
IT-enabled services			42,000	70,000	106,000
Total	156,000	160,000	284,000	430,114	522,250

ment gave land for the building of IT companies. Concessions were also given on sales tax, electricity, and import duties (Chowdhry, 2002). As a result of all these efforts, India became an important player in the IT sector.

The software industry, which was started in the early 1970s, has grown at an exponential rate since the 1980s (Heeks, 1996). In the beginning, much of this work was carried out at the clients' facility located elsewhere rather than in India (Mitter, 2000). Recently, IT-enabled services such as call centres, customer interaction, back-office operations, insurance claims processing, medical transcriptions, and

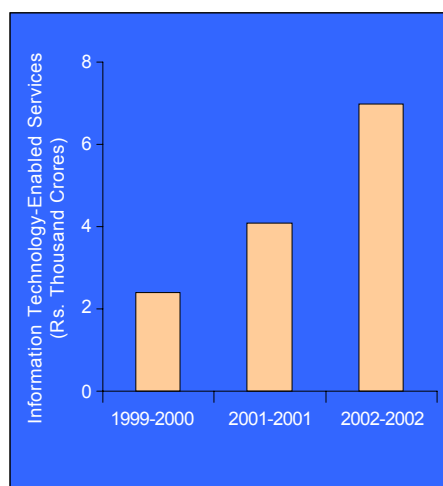
database management have further enhanced the scope of the IT industry in India. From a base of 6,800 knowledge workers in 1985 and 1986, the number increased to 522,000 software and services professionals by the end of 2002. It is estimated that out of these, almost 170,000 are working in the IT software and services export industry, nearly 106,000 are working in IT-enabled services, and 220,000 in user organizations (Table 1; <http://www.nasscom.org.in>). Hence, today IT is emerging as a major industry with increasing revenues (Figure 1).

WOMEN AND IT EDUCATION

Women's participation in the country's IT growth is determined by the low status ascribed to them in Indian society, extreme poverty, and poor IT infrastructure. Since most women lack literacy and basic education, specialized IT education is out of reach for many women. Like in many parts of the world, by and large girls take up courses in arts subjects only, and very few girls go for science subjects, especially engineering and IT. Female youth literacy is at 44%, and only 23% of India's Internet users are women (United Nations Education, Scientific and Cultural Organization, 1999)

Since very few women opt for engineering courses, an insignificant number of them pursue specialized training in IT. By and large, women face challenges in pursuing education at all ages because of the lack of time to attend school, familial and household duties, and sociocultural norms that give a low priority to education. In general, men are more aggressive than women, and this norm manifests

Figure 1. Increasing revenues from IT



Note: about 45 Indian Rupees = \$1
 1 crore Indian Rupees = 10 million Rupees
 Source: NASSCOM (2001)

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