Chapter 4
Are Cities in India Digital Yet?
Some Evidence

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ABSTRACT

The world is becoming increasingly urbanized and digitized. More than half of the world's population now lives in cities. Developing countries such as India with large urbanites are leapfrogging in the new information age, thanks to the ubiquity and declining cost of technologies. The Indian IT industry provides advanced outsourcing services to companies in the USA and Europe thanks to the Internet and advancement in communication technologies. India has about 400 million mobile subscribers and has become the second largest mobile communications market in the world, next only to China. The majority of the mobile and broadband subscribers in India live in cities. The telecommunications and IT industry contribute to about 8% of India's GDP. Given the growth of urbanization and technology diffusion in India, it has become important to understand how digital cities are in India. The authors of this chapter study using indicators such as e-government services and IT orientation of the cities, a sample of 35 million-plus cities in India. Findings indicate that the larger cities, especially those with more than 10 million inhabitants, fare relatively well in their readiness towards becoming digital compared to smaller cities.

JEL Classification: L86, L96

INTRODUCTION

The world is becoming increasingly urbanized and digitized. More people both absolutely and in relative terms live in cities than ever before. More than half of the world's population for the first time lives in cities. At the same time, Information and Communication Technologies (ICT) enable people in urban areas to be connected to firms and institutions, especially the government for

Table 1. Size Distribution of India's Cities: 1901-2001

	Class I	**Class II**	**Class III**	**Class IV**	**Class V**	**All cities***
1901	25	44	144	427	771	1,917
1911	26	38	158	388	750	1,909
1921	29	49	172	395	773	2,047
1931	31	59	218	479	849	2,219
1941	49	88	273	554	979	2,424
1951	76	111	374	675	1,195	3,060
1961	107	139	518	820	848	2,700
1971	151	219	652	988	820	3,126
1981[Ψ]	226	325	883	1,247	920	3,949
1991[Δ]	322	421	1,161	1,451	973	4,615
2001[Γ]	414	503	1,391	1,558	1,040	5,161

Source: Sridhar (2007).

* Note that all cities include cities in class sizes I-VI, columns 2-5 report only class sizes 1-V. The Census of India's definition for various class sizes of cities is as follows: Class I: Population >100,000; Class II: Population of 50,000-99,999; Class III: Population of 20,000-49,999; Class IV: Population of 10,000-19,999; Class V: Population of 5,000-9,999; Class VI: Population <5,000.

[Ψ] In 1981, there was no census held in Assam due to disturbed conditions there. So while during 1901-71, and 1991-2001, the number of cities reported include those in Assam, in 1981, they exclude Assam. If the reader is interested in comparing the figures on various class size cities for the time period considered without Assam, they are available from the author upon request.

[Δ] In 1991, there was no census held in Jammu and Kashmir (J&K) owing to disturbed conditions. So while during 1901-81 and in 2001, the number of cities includes those in J&K, the 1991 list of cities excludes those in J&K. The list of all towns separately for J&K for 1901-1981 and 2001 are available upon request from the author, should there be interest for purposes of comparison.

[Γ] The 2001 size distribution of cities is provisional, as this was still being finalized by the Census of India at the time this paper was revised. The size distribution of cities for 2001 has been computed by the author based on the list of towns and their populations available from the census at that time.

e-government services. It is our objective in this paper to enumerate factors that contribute to the digital readiness of cities from the extant literature and analyze data from large Indian cities to understand how well prepared along these factors.

Sridhar (2007) provides an overview of urbanization in India. Table 1 describes the size distribution of cities in various class sizes since the beginning of the century. At the beginning of the twentieth century, there was only one city with million plus population (hereafter referred to as a million-plus city), namely Calcutta, with a population of 1.5 million[1]. Bombay joined this league in 1911. In 1991, four metropolitan areas (Mumbai, Chennai, Kolkata and Delhi) were the only mega cities (with population greater than five million), but by 2001, the number of mega cities had increased to six (with Bangalore and

Hyderabad joining the league). This trend continued steadily. In 1991, there were 23 cities with a population of over one million (which accounted for 33 percent of the urban population), over 300 cities with a population ranging between 100,000 and a million, and over 4,000 towns (see Table 1). In 2001, the number of cities with million-plus population grew to 35 (housing 38 percent of the total urban population), with 14 of these 35 growing at higher than average rate during 1991-2001 (Lahiri-Dutt and Samanta, 2001). In 2001, the number of cities in the population size category of 100,000 to one million (class I cities) grew to 464 from only over 300 in 1991.

We should note that there is quite a lot of disparity in the way in which these million-plus cities are spatially distributed across the Indian states. The states of Uttar Pradesh and Maharash-

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