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Understanding the Digital Divide through the Capability Approach: A Sociological Study of Youth in Contemporary Indian Society

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Abstract

The digital divide has emerged as a major social issue in contemporary India. It has become an important form of social inequality. It is closely linked with class, caste, gender, region, and disability. This paper focuses on the digital divide among Indian youth through Amartya Sen's Capability Approach. Using secondary data from NSSO reports, national surveys, and existing literature, it examines digital access, skills, and opportunities. The study finds that although access to digital devices and the internet has increased, digital capabilities remain unequal. Thus, digital exclusion is not only a technological issue but also a social and economic issue that can deepen existing inequalities. The paper suggests improving digital literacy, affordability, gender-sensitive programmes, and social support so that technology can promote equal opportunities for all.

Keywords

Digital divide, Capability approach, Youth, India, Digital inequality, Social stratification, Digital capability.

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1. Introduction

Digital technologies have transformed the social, economic, and cultural life of contemporary societies. In India, the expansion of affordable smartphones and data services has produced what scholars describe as a new techno-social phase of society, in which digital connectivity is woven into education, employment, governance, banking, and everyday sociability. Yet this transformation has been profoundly uneven. Digital society and physical society remain interconnected, and India's prevailing socio-economic divide has proven to be the source of a wide digital divide rather than a problem that technology alone could resolve. The COVID-19 pandemic exposed this reality with particular force: when schools, colleges, and labour markets moved online, millions of young people found themselves unable to participate in activities that had suddenly become exclusively digital.

The concept of the digital divide has evolved considerably since its early usage in the 1990s. Originally understood as a binary gap between those with and without access to computers and the Internet, it is now widely recognised as a multidimensional phenomenon encompassing disparities in infrastructure, devices, affordability, skills, usage, and the outcomes that digital engagement produces. Youth are among the most exposed to these disparities. Despite the global rise of ICTs, the digital divide - the disparity in access to the Internet and other digital devices - continues to affect various segments of society, and youth worldwide are among the most affected. In India, the category of "youth" is internally fractured: the experience of a young urban professional with a high-end smartphone differs radically from that of a rural or tribal adolescent sharing a single device with an entire household, or a young woman whose access to digital space is regulated by family norms and gendered expectations.

India is home to one of the largest youth cohorts in the world, and the country's developmental depends substantially on whether this demographic dividend is converted into educated, skilled, and employed adulthood. Digital exclusion threatens at multiple points: in education, in employment and in civic participation. Understanding the digital divide among Indian youth is therefore not merely an academic exercise but a question of social justice and inclusive development.

This paper presents Amartya Sen's capability approach as its theoretical lens. The capability approach evaluates well-being and development not by the resources people possess but by the freedoms and opportunities they actually enjoy to achieve functionings—the “beings and doings” that constitute a life of value. The digital divide is not simply a distributional problem of devices ; it is a question of whether young people possess the opportunities to convert digital resources into meaningful capabilities: to learn, to work, to communicate, to access public services, and to participate as equal citizens. It has important sociological consequences, because conversion depends on social position such as gender, caste, class, region, disability and on the enabling environments that families, schools, communities, and the state provide.

2. Objectives of the Study

The study has three objectives:

1. To understand the digital divide among youth in contemporary India.
2. To examine the influence of digital capability on educational, employment, and skills-development opportunities.
3. To understand whether digital inequalities contribute to the reproduction of existing social inequalities.

3. Literature Review

The digital divide has emerged as an important area of research in recent years. Existing studies examine digital inequality from different perspectives, including access to devices and the internet, digital skills, patterns of use, and the social and economic outcomes of technology. And here we have discussed few of them.

Ray (202) emphasize conceptual and policy-oriented analysis of the digital divide among Indian youth. He argues that, despite the rise of ICTs, disparities in access to the Internet and digital devices continue to affect various segments of society, with youth worldwide among the most affected; his article examines the issues and challenges hurdling youth Internet access in India and concludes with policy measures aimed at expanding youth participation in the digital economy .

Basak (2024) conducted an ethnographic study of young men from low-privileged backgrounds in Kolkata, finding that affordable smartphone-Internet access allowed them partially to overcome the second digital divide by acquiring livelihood skills and information from platforms such as YouTube, yet they remained entangled in the third digital divide: the efficacy of applying online resources was limited by the nature of available livelihoods, the scarcity of energy and time, social expectations, and dependence on offline networks for finding employment. The study shows that the extent of the divide varies not merely across groups but across uses,

and that digital engagement among disadvantaged youth must be understood within specific life contexts that shape what can be achieved with information .

Singh (2024) studied dimension of the Indian divide - disability. Singh argues that in India, where rapid technological advance coexists with enduring social disparities, the digital divide significantly affects disabled youth, and that understanding this requires integrating classical sociological theories of marginalization and exclusion with contemporary science, technology, and society research .

Laskar (2023) conducted a comparative study of urban and rural localities in India. The study frames the digital divide as a complex techno-social problem. Rural areas were found to have inadequate digital infrastructure, limited access and insufficient capability to make use of digital facilities; although smartphones were available to most but they were mostly used for phone calls and entertainment rather than for productive, learning or skill-oriented purposes. Schools functioned with minimum facilities and without digital infrastructure, teachers were not well trained in technology.

Nayak and Alam (2022) investigated the digital divide during the COVID-19 pandemic among tribal youth in rural Jharkhand, with particular attention to gender and education. Their study documents difficulties the tribal students faced when education moved online: teachers relied primarily on WhatsApp, rather than Zoom or Google Meet, and the absence of digital infrastructure undermined both students' and teachers' capacity to realise the potential of online teaching. The study is sociologically valuable in showing how tribal identity, rural location, poverty, and gender intersect in shaping digital exclusion.

Dhaygude, Lapsiya, and Chakraborty (2022) examined the digital divide during COVID-19 school closures. They found that students in under-funded government schools faced major barriers to online education. Teachers and non-profit organizations used mass-media technologies to overcome some of these challenges. The study emphasized economic difficulties forced some students to leave school and work to support their families. The authors therefore stressed the importance of digital infrastructure, supportive home environments, and economic safety proposing Digital Welfarism as a broader approach to digital inclusion.

4. Theoretical Framework: The Capability Approach

The capability approach, developed by Amartya Sen and elaborated by Nussbaum and others, is a normative framework for the evaluation of well-being, inequality, and development. Its point of departure is a critique of approaches that evaluate development by utility—by incomes, goods, services, or subjective satisfaction—which Sen argues are at best means to

certain ends rather than the ends themselves. Capabilities refer to the opportunities available to individuals to pursue a life they have reason to value, while functionings are the actual “beings and doings” of a person - states such as being educated, healthy, employed, socially connected, or able to communicate. Within this framework, functionings are realized achievements and capabilities are the freedoms and opportunities to achieve them. For Indian youth, digital resources are converted into opportunities through conversion factors such as income, caste, gender, literacy, disability, family support, school quality, and regional infrastructure. Therefore, having a smartphone does not guarantee equal digital opportunities. A young person may own a device but lack skills, affordability, freedom, or social support to use it effectively. Thus, this paper explain the digital divide as unequal digital capabilities to use technology for education, employment, communication, and social participation. The Capability Approach therefore helps explain how digital inequality can reproduce existing social inequalities.

5. Research Methodology

This study adopts a secondary data-based research design to examine the digital divide among Indian youth. Secondary data are appropriate because large-scale national surveys and published studies provide information on digital access, skills, and outcomes across different social groups, regions, and economic categories. The study mainly uses four types of secondary sources. *First*, the ‘NSSO 75th Round (2017-18)’ on Household Social Consumption: Education provides information on household access to computers and the internet. *Second*, education surveys provide information about smartphone access and digital use among students. *Third*, UNICEF as reported in Banerjee *et al.* (2019) provide data on gender differences in mobile phone, smartphone, and internet use. *Fourth*, recent peer-reviewed studies used to examine digital education, youth engagement, employment, skills, and disability. The analysis follows three stages. *First*, it examines digital inequalities based on rural-urban location, economic status, caste, and gender. *Second*, it studies how digital capabilities influence education, employment, and skill development. *Third*, it examines how social factors such as income, caste, gender, and disability affect the ability to convert digital resources into meaningful opportunities.

6. Findings

6.1 Smartphone Access and Control

The secondary data show that the digital divide in India is shaped by rural-urban location, economic status, caste, and gender. The differences in household access to computers and the Internet between rural and urban areas, based on the NSSO 75th Round. Among rural households there are 4.4 percent households possess a computer and 14.9 percent have Internet

connectivity. In urban 23.4 percent households possess computer and 42 percent have Internet connectivity. The digital divide remains wide between rural and urban households, with rural areas having much lower access to computers and the Internet. Richer households also have better digital facilities, while the rural-urban gap has narrowed mainly due to the spread of mobile Internet rather than improved computer access. Sharma found that only 9% of students had essential digital infrastructure and just 11% of households had a computer or tablet suitable for online classes. Beyond access, young people also face gaps in digital skills and outcomes. Laskar found that rural youth mainly used smartphones for calls and entertainment rather than education or skill development. Gaikwad's secondary analysis shows the same multidimensional pattern persisting even after two decades of Digital India and BharatNet initiatives.

Table-1: Smartphone Access and Control among Enrolled Students in India (per cent)

Indicator	Percentage
Students with smartphone at home	67.6
Of whom do not have access to it	27.4
With full control over the household smartphone	27.0
With access only on rare occasions	47.0
With no access at all	26.1

Source: National survey as reported in (Gautam, 2022)

The evidence shows that having a smartphone does not always mean having the capability to use it for education. More than one-fourth of students with a smartphone at home could not access it, while fewer than one-third had full control over the device. Among college students, poor connectivity and limited data affordability further restricted online learning. During COVID-19, these barriers affected government-school and tribal students most severely, with some students dropping out. Disadvantaged youth used digital platforms such as YouTube to develop skills, limited job opportunities, time, and offline networks prevented them from converting these skills into employment.

6.2 Digital Inequality & the Reproduction of Social Inequalities

Digital inequality refers to disparities in access to, use of, and ability to benefit from digital technologies and online resources. These disparities are shaped by differences in living area, income, education, gender, age, caste, geographical location, and digital skills. It is a well documented fact that Unequal digital access can limit opportunities for education, employment, communication, public services, and social participation. Consequently, digital inequality does not merely reflect existing social inequalities; it can

also reproduce and deepen them, as socially and economically advantaged groups are often better positioned to acquire and effectively use digital resources.

Table-2: Gender Distribution of Mobile Internet Users in India

Living Area	Women	Men
Urban India	38%	62%
Rural India	28%	72%
All India	33%	67%

Source: Department of Telecommunications (DoT), *Telecom Statistics India 2019*, as reported in Banerjee *et al.*, 2019; and Prakash and Srinivasan, 2023).

The digital divide is strongly shaped by gender, caste, tribal status, and disability. Although the smartphone gap narrowed in 2020, it returned to 23% in 2021, showing that temporary access does not ensure long-term digital empowerment for women. According to the GSMA Mobile Gender Gap Report 2025, India's gender gap in smartphone ownership widened from 32% in 2023 to 39% in 2024, indicating that women remained substantially less likely than men to own smartphones. According to the GSMA Mobile Gender Gap Report 2025, India's gender gap in smartphone ownership widened from 32% in 2023 to 39% in 2024, indicating that women remained substantially less likely than men to own smartphones.

Women also remain less represented among Internet users, especially in rural areas. Social restrictions, caste-based inequalities, tribal disadvantage, and limited accessibility for disabled youth further reduce their ability to benefit from digital technologies. These disparities are further reinforced by differences in digital literacy (like use a smartphone, computer or tablet effectively as well as search for and evaluate information on the Internet), affordability of devices (like high cost of devices such as mobiles, tablets, laptops, desktops etc.), data services (like high cost incurred on getting sufficient data) and also unequal access to reliable digital infrastructure (like poor or unstable Internet connectivity in rural, remote, and tribal areas compared with urban centres; Frequent electricity interruptions etc.). Consequently, digital exclusion can reproduce existing social and economic inequalities by limiting opportunities for education, employment, financial inclusion, and access to public services.

7. Conclusion

This paper shows that the digital divide among Indian youth should be understood as a form of capability deprivation. It is about whether young people have the skills, resources, and social support needed to use technology for education, employment, skills, and other meaningful

opportunities. These capabilities are shaped by class, caste, gender, region, tribal identity, and disability. The study found three major findings: *First*, the digital divide is multidimensional. Rural youth, poorer households, and socially marginalized groups have less access to computers and the internet. *Second*, digital capability strongly influences educational and employment opportunities. Limited access to smartphones, skills, and digital job platforms can restrict young people's opportunities. *Third*, digital inequality can reproduce existing social inequalities through gender norms, caste differences, tribal marginalization, and disability. The Capability Approach helps sociology move beyond the question of access and focus on what young people can actually achieve through digital technology.

8. Suggestions

The policies should improve not only connectivity but also digital skills, affordability, social support, and equal opportunities. First, connectivity policies require supplementation by affordability and device measures. Even where programmes such as BharatNet extend physical infrastructure devices and data plans remain prohibitively expensive for poor households, and the evidence shows that cost is a daily, practical barrier to online education. Second, digital literacy must be reconceived as a social capability rather than a technical skill test. The digital gender gap requires long-term digital literacy and skill-development programmes. Digital inclusion should also be linked with education, vocational training, employment, and social networks so that digital skills lead to real opportunities, especially in rural areas.

References

- Alampay, E. A., "Beyond access to ICTs: Measuring capabilities in the information society", *International Journal of Education and Development using Information and Communication Technology*, 2(3), 2006, 4-22.
- Alampay, E. A., "Analysing socio-demographic differences in the access & use of ICTs in the Philippines using the capability approach", *Journal of International Development*, 18(7), 2006, 1007-1024. <https://doi.org/10.1002/jid.1318>
- Banerjee, Abhijit, Arun G. Chandrasekhar, Esther Duflo, and Matthew O. Jackson, "Using Gossips to Spread Information: Theory and Evidence from Two Randomized Controlled Trials." *Review of Economic Studies*, 86(6), 2019, 2453-2490. <https://doi.org/10.1093/restud/rdz008>.
- Banerjee, P., "Disconnected futures: How India's digital divide is quietly shaping educational inequality", *Economic and Political Weekly*, 58(45), 2023, 12-19.
- Chakravorty, S., "Digital inequality and the capability gap: Evidence from rural India", *Journal of Social Inclusion Studies*, 9(2), 2023, 45-62.
- Dhaygude, M. S., & Lapsiya, R., "Digital divide in higher education: A study of undergraduate students in Maharashtra", *Indian Journal of Educational Technology*, 34(1), 2022, 23-31.

- Duwendack, N., *Digital infrastructure and educational outcomes in low-income countries*, Doctoral dissertation, University of London, 2021.
- Economic Research Unit, *Telecom Statistics India 2019*, Department of Telecommunications, New Delhi: Ministry of Communications, Government of India, 2019.
- Gautam, A., & Guha, A., "Determinants of digital divide using demand-supply framework: Evidence from India", *Journal of Quantitative Economics*, 18(3), 2020, 567-589. <https://doi.org/10.1007/s40953-020-00201-2>
- Guha, A., & Mukerji, M., "Determinants of digital divide using demand-supply framework: Evidence from India", Working Paper No. 2019-04, Indian Institute of Management, Kashipur, 2019.
- GSMA, *The Mobile Gender Gap Report 2025*, London: GSMA, 2025.
- Laskar, M. H., "Examining the emergence of digital society and the digital divide in India: A comparative evaluation between urban and rural areas", *Frontiers in Sociology*, 8, 2023, 1145221. <https://doi.org/10.3389/fsoc.2023.1145221>
- Ministry of Statistics and Programme Implementation (access the full findings via MoSPI Report Portal), the *Comprehensive Modular Survey on Telecom-NSS 80th Round-2025 conducted by the National Statistics Office (NSO)* available at <https://www.mospi.gov.in> > CMST_report_m
- Nayak, K. V., & Alam, M., "Digital access and educational inequality among adolescents in India: Evidence from NFHS-5", *Demography India*, 51(2), 2022, 89-104.
- Palvia, S., "Digital divide and educational opportunities in India: A sociological perspective", *Sociological Bulletin*, 66(3), 2017, 321-340.
- Prakash, Aman, and Srinivasan V., "Exploring the Surge and Potential of Wireless Internet Users in Rural India." *International Journal of Engineering Research & Technology (IJERT)*, NCRTCA, 2023. <https://doi.org/10.17577/NCRTCA-PID-104>
- Rajam, V., Reddy, A. B., & Banerjee, S., "Explaining caste-based digital divide in India", *Telematics and Informatics*, 65, 2021, 101719. <https://doi.org/10.1016/j.tele.2021.101719>
- Ray, S., "From access to capability: Re-thinking digital inclusion in Indian education", *Journal of Education and Society*, 28(1), 2025, 55-73.
- Sandhu, P., "Gendered digital divides in urban India: Access, skills and outcomes", *Indian Journal of Gender Studies*, 29(3), 2022, 401-424.
- Savio, J., "Platform-mediated learning and digital inequality among Indian youth", *Contemporary Education Dialogue*, 21(2), 2024, 178-199.
- Sen, A., *Development as Freedom*, New York: Oxford University Press, 1999.
- Sharma, R., "Digital skills and youth employability in India: Evidence from NSS 75th round", *Labour and Development*, 30(1), 2023, 34-52.
- Singh, A., "Digital divide and social stratification among Indian youth: A district-level analysis", *Journal of Social Sciences*, 30(2), 2024, 112-129.
- Singh, A., Kumar, P., & Verma, S., "Wealth, education and autonomy: Predictors of women's internet use in India", *BMC Public Health*, 25(1), 2025, Article 10234. <https://doi.org/10.1186/s12889-025-10234-x>

- Sunil, G., & Pritam, S., "Bridging the digital divide in rural India: Infrastructure, policy and capability", *Journal of Rural Development*, 45(1), 2026, 1-22.
- Thomas, J. J., "Digital education and inequality in India: A critical review", *Educational Studies*, 46(4), 2020, 78-95.
- Van Dijk, J. A. G. M., "Digital divide: Impact of access", W. Donsbach, M. Graber, & K. Schoenbach (eds.), *The International Encyclopedia of Media Effects*, Chichester, West Sussex, United Kingdom: Wiley-Blackwell, 2017, 1-12.
- Zheng, Y., & Walsham, G., "Inequality of what? Social exclusion in the e-society as capability deprivation", *Information Technology & People*, 21(3), 2009, 222-243. <https://doi.org/10.1108/09593840810890666>
- Zheng, Y., "Different spaces of e-development: What can we learn from the capability approach?", *Information Technology for Development*, 15(1), 2009, 67-80. <https://doi.org/10.1080/02681100902808909>
- National Sample Survey Office, *Key indicators of household social consumption on education in India*, NSS 75th round (July 2017-June 2018), New Delhi: Ministry of Statistics and Programme Implementation, Government of India, 2019. ★