

DIGITAL INEQUALITY AND SOCIAL EXCLUSION IN CONTEMPORARY INDIA

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ABSTRACT

Digital technology now shapes education, employment, healthcare, banking, welfare delivery, communication and political participation in India. Yet the rapid spread of smartphones and internet subscriptions has not produced equal digital participation. Access varies according to income, caste, gender, education, age and location, while household connectivity often conceals differences in personal ownership, privacy and autonomy. This paper examines digital inequality as a form of social stratification. It uses secondary data from national surveys, government reports and peer-reviewed studies, interpreted through the theories of Bourdieu, Weber, Castells, Sen and intersectionality. The results show that women, especially rural women, experience lower mobile ownership and internet use than men; rural users rely heavily on mobile connections; and disadvantaged caste and class groups face cumulative barriers arising from low income, weaker education and limited institutional support. Digital inequality is therefore not merely a technological gap but a contemporary expression of historically rooted social exclusion. The paper recommends affordable connectivity, individual device access, advanced digital literacy, regional-language content, accessible public services, cybersecurity education and reliable offline alternatives. Meaningful inclusion should be measured through improved life chances rather than subscription numbers alone.

KEYWORDS: digital inequality; social exclusion; caste; class; gender; rural–urban divide; digital literacy; India.

1. INTRODUCTION

Digitalisation has altered the organisation of everyday life. Educational institutions use online learning platforms; employers advertise and process applications digitally; banks encourage mobile payments; hospitals provide teleconsultation; and governments increasingly deliver welfare through online portals and databases. Digital competence has consequently become an important determinant of access to social institutions.

India has achieved substantial growth in internet connectivity. However, numerical expansion alone does not establish equality. One household connection may be shared by several people, and one smartphone may be

controlled by a single family member. A student using a shared low-cost phone cannot be considered equal to a student with a personal laptop, broadband connection and a private study environment. Similarly, a woman permitted to use a family phone only occasionally does not possess the same digital autonomy as its owner.

Digital inequality therefore includes differences in devices, affordability, speed, skills, language, privacy, safety, autonomy and outcomes. The central sociological question is not simply who is connected, but who can use technology independently and convert it into educational, occupational, financial and civic advantage.

2. STATEMENT OF THE PROBLEM

The conventional digital divide separated users from non-users. This binary model is no longer sufficient because many people are technically connected but remain unable to participate meaningfully. Restricted data, weak networks, shared devices, low literacy, English-dominated interfaces and dependence on intermediaries may all limit effective use.

The problem becomes serious when institutions adopt “digital by default” procedures. Citizens may possess formal rights to welfare, education or employment but remain practically excluded because they cannot complete online procedures. Digital inequality thus converts pre-existing social disadvantage into institutional disadvantage.

3. SIGNIFICANCE OF THE STUDY

The study is important because digitalisation affects every major social institution. A sociological perspective reveals that technology does not operate separately from society; it is shaped by class, caste, gender, education and geography. Understanding these relationships is essential for designing policies that produce equality rather than merely connectivity.

4. OBJECTIVES AND RESEARCH QUESTIONS

4.1 Objectives

- To explain digital inequality as a form of social stratification.
- To analyse the influence of class, caste, gender, education and location on digital participation.
- To distinguish between inequalities of access, skills and outcomes.
- To examine rural–urban and gender differences in ownership and use.
- To assess the consequences of digital exclusion for education, employment, health, welfare and citizenship.
- To recommend measures for meaningful digital inclusion.

4.2 Research Questions

- How does digital inequality reflect the wider structure of social inequality in India?
- Why does household connectivity not necessarily indicate individual inclusion?
- How do gender and rural–urban location influence ownership, use and skills?
- How do caste, income and education shape digital capability?
- What institutional consequences arise from online-only systems?

- Which policies can convert connectivity into substantive equality?

5. CORE CONCEPTS

Concept	Meaning
Digital divide	Difference between those with and without access to digital technologies.
Digital inequality	Unequal access, skills, autonomy, quality of use and benefits.
Digital inclusion	Affordable, safe and independent participation supported by suitable devices and skills.
Social exclusion	Processes preventing full participation in economic, political and institutional life.
Meaningful connectivity	Regular, reliable and affordable access capable of supporting valued activities.
Digital capital	Digital resources and competencies that can be converted into social or economic advantage.

6. LEVELS OF DIGITAL INEQUALITY

Level	Primary concern	Typical consequence
First level	Physical access, devices, electricity, affordability and networks	Complete or partial exclusion
Second level	Skills, autonomy, privacy, language and quality of use	Unequal capacity to participate
Third level	Benefits in education, employment, health and citizenship	Reproduction of unequal life chances

7. REVIEW OF LITERATURE

Early digital-divide studies focused on computers and internet access. As connectivity expanded, scholars shifted towards differences in skills, autonomy, purposes of use and outcomes. DiMaggio and colleagues argued that digital inequality should be analysed through equipment, autonomy, skills, social support and variation in use. Van Dijk described a cumulative sequence in which motivational, material, skills and usage inequalities reinforce one another.

Scheerder, van Deursen and van Dijk distinguished access, skills and outcomes. This framework is relevant to India because basic smartphone use may coexist with an inability to prepare documents, analyse information or complete complex applications. The third-level divide is especially important: two users may have similar devices but receive unequal educational and occupational benefits.

Indian research shows that income, education, caste, occupation and location influence digital ownership and use. Economically secure and educated households are better positioned to purchase multiple devices, broadband and training. Households dependent on casual or agricultural labour generally possess fewer resources and weaker opportunities for advanced digital participation.

Studies of caste-based digital inequality report differences in computer ownership, internet access and digital literacy. Much of the observed gap is associated with unequal income and education, but these inequalities are themselves historically shaped by caste. Digital inequality therefore represents a new institutional field in which inherited disadvantage may be reproduced.

Gender research highlights unequal ownership, privacy and autonomy. Women may access family devices without controlling passwords, applications or communication. Rural women often face the combined effects of low household income, weaker infrastructure and restrictive social norms. Rural–urban research similarly shows that connectivity has expanded, particularly among youth, while differences in speed, device quality and productive use remain.

8. ANALYTICAL PROPOSITIONS

- Connectivity growth does not automatically eliminate inequality.
- Existing social inequalities shape digital ownership, skills and outcomes.
- Advantaged groups convert digital access into benefits more effectively.
- Mobile-only access reduces absolute exclusion but may preserve advanced-use inequality.
- Online-only institutional procedures can produce new forms of social closure.

9. THEORETICAL FRAMEWORK

9.1 Bourdieu: Capital and Social Reproduction

Bourdieu's concepts of economic, cultural and social capital explain why identical technologies produce different outcomes. Economic capital purchases devices, broadband and training. Cultural capital includes education, language, confidence and familiarity with institutions. Social capital provides networks that offer information and technical help. These resources combine to create digital capital, which can then be converted into academic credentials, employment and prestige.

9.2 Weber: Life Chances and Social Closure

Weber's concept of life chances refers to opportunities linked to social position. Digital skills increasingly determine access to jobs, welfare and education. Social closure occurs when opportunities are formally open but practically inaccessible to those lacking devices, skills or connectivity. Online-only systems can therefore create indirect exclusion without explicitly discriminatory rules.

9.3 Castells: Network Society

Castells argues that power operates through networks. Individuals connected to influential educational, professional and institutional networks gain advantages, while weakly connected populations remain marginal. A person may be online but connected mainly to entertainment rather than to networks that produce mobility and authority.

9.4 Sen: Capability Approach

Sen distinguishes possession of a resource from the real freedom to use it. A smartphone is valuable only when a person has time, privacy, skills, language and institutional opportunities. Equal devices do not create equal capabilities when social conditions differ.

9.5 Intersectionality

Intersectionality explains how disadvantages combine. Poverty limits ownership, rural location weakens connectivity, caste affects education, patriarchy restricts autonomy and language influences usability. The digital experience of a poor rural woman from a historically disadvantaged caste cannot be understood through any single category

Theory	Key idea	Application to digital inequality
Bourdieu	Capital and reproduction	Existing resources generate digital advantage.
Weber	Life chances and closure	Digital requirements regulate access to opportunities.
Castells	Network society	Weak network position produces marginality.
Sen	Capabilities	Access matters only when it expands real freedom.
Intersectionality	Combined disadvantage	Class, caste, gender and location reinforce one another.

10. RESEARCH METHODOLOGY

10.1 Research Design

The study follows a descriptive, analytical and review-based design. It does not present original fieldwork. Instead, it interprets available statistical evidence through established sociological theories.

10.2 Sources of Data

The analysis uses national telecom surveys, performance reports, government policy documents, peer-reviewed journal articles and major sociological works. Sources were selected for relevance to access, skills, outcomes, caste, class, gender and geography.

10.3 Method of Analysis

Evidence was organised under household access, ownership, internet use, skills, rural–urban inequality, gender inequality, caste and class, institutional exclusion and outcomes. Comparable percentages were used to calculate percentage-point differences. The interpretation emphasises relationships and patterns rather than causal claims.

10.4 Ethical Considerations

Only publicly available aggregated data were used. No personal identifiers, interviews or experiments were involved, and no statistics were fabricated.

10.5 Limitations

- Household access does not demonstrate individual ownership or autonomy.
- Internet subscriptions do not represent unique users.
- Self-reported skills may differ from practically tested competence.
- National averages conceal regional and community variation.
- Secondary data provide limited information on privacy, harassment and quality of access.
- The design identifies patterns but cannot establish direct causality.

11. RESULTS: OVERALL CONNECTIVITY

Indicator	Observed pattern	Interpretation
Internet subscriptions	Very large national base	Absolute disconnection has declined.
Dominant access mode	Mobile devices	India remains heavily mobile-dependent.
Household connectivity	High but not universal	Household access may conceal individual exclusion.
Wired access	Far less common	Advanced access remains socially concentrated.

The national pattern indicates a shift from simple non-access to differentiated access. The major question is now the quality, autonomy and social value of connectivity.

12. RESULTS: GENDER AND RURAL-URBAN DIFFERENCES

Area	Male mobile ownership (%)	Female mobile ownership (%)	Gender gap
Rural	80.7	48.4	32.3 points
Urban	90.0	71.8	18.2 points

The rural ownership gap is exceptionally large. Women without personal phones may depend on male relatives, reducing privacy, continuity of use and independent access to employment, banking and healthcare.

Area	Male internet use (%)	Female internet use (%)	Gender gap
Rural	72.1	57.6	14.5 points
Urban	85.5	74.0	11.5 points

The use gap is smaller than the ownership gap, suggesting that some women access the internet through shared or borrowed devices. Shared use reduces complete exclusion but does not establish autonomy.

Category	Mobile ownership (%)	Internet use (%)	Ownership-use difference
Rural male	80.7	72.1	8.6

Rural female	48.4	57.6	-9.2
Urban male	90.0	85.5	4.5
Urban female	71.8	74.0	-2.2

A negative difference means that internet use exceeds personal phone ownership. The largest negative value appears among rural women, providing indirect evidence of dependent access.

Area	Internet use among ages 15–29 (%)	Gap from urban level
Rural	92.7	-3.0 points
Urban	95.7	Reference

Youth use is high in both sectors, but occasional use does not prove daily access, high speed or advanced skill. The data indicate widespread exposure rather than complete equality.

13. RESULTS: SKILLS, CASTE AND CLASS

Area	Male able to send attached files (%)	Female (%)	Gender gap
Rural	67.2	50.9	16.3 points
Urban	79.1	65.8	13.3 points

Even this basic skill displays substantial inequality. More advanced tasks such as spreadsheets, coding, academic writing and cybersecurity are likely to show wider differences.

Structural factor	Effect on digital participation
Unequal education	Reduces skills, confidence and ability to use formal platforms.
Income inequality	Limits devices, data, broadband and training.
Occupational insecurity	Discourages investment in advanced technology.
Residential disadvantage	Reduces infrastructure and service quality.
Weak institutional networks	Limits information, guidance and support.
Historical discrimination	Produces cumulative disadvantage across generations.

Caste-related digital inequality is mediated by education, income, occupation and location. Because these variables are themselves historically patterned, digital exclusion cannot be separated from caste-based social stratification.

Dimension	Advantaged household	Disadvantaged household
Devices	Multiple phones, laptop and tablet	One shared smartphone

Connectivity	Broadband plus mobile data	Limited prepaid data
Learning environment	Private space and stable electricity	Crowded space and interruptions
Support	Paid courses and educated guidance	Limited technical assistance
Type of use	Research, professional work, content creation	Communication and entertainment
Likely outcome	Higher educational and occupational returns	Restricted capability and dependence

Class differences demonstrate cumulative advantage: economic resources are converted into digital and educational capital, which are then converted into credentials and income.

14. RESULTS: INSTITUTIONAL CONSEQUENCES

14.1 Education

Factor	Inclusive condition	Exclusionary condition
Device	Personal laptop or tablet	Shared low-cost phone
Connectivity	Reliable broadband	Unstable or limited data
Study environment	Quiet private space	Crowded household
Teacher support	Digitally trained teachers	Weak digital pedagogy
Language	Accessible regional content	English-dominated material
Family support	Educated guidance	Little technical assistance

Digital education expands access to lectures and libraries, but unequal home environments reproduce academic inequality. Formal enrolment in the same course does not guarantee equal learning conditions.

14.2 Employment

Recruitment, applications, video interviews and professional networking increasingly require digital competence. People without advanced skills may be excluded before meeting an employer. Platform work creates new opportunities but may also involve unstable income, algorithmic monitoring and weak social protection.

14.3 Welfare and Citizenship

Potential benefit	Potential risk
Faster processing	Authentication or network failure
Reduced paperwork	Incorrect database records
Direct benefit transfer	Dependence on intermediaries
Remote applications	Exclusion of digitally illiterate citizens
Transparency	Loss of privacy

Digital public services should not transfer the entire burden of navigation to citizens. Assisted and offline alternatives are necessary to protect substantive rights.

14.4 Health and Finance

Telemedicine may connect remote patients with specialists, but shared devices can compromise confidentiality. Digital payments improve convenience, yet users with limited literacy remain vulnerable to phishing, identity theft and fraudulent lending applications. Inclusion must therefore combine access with safety and consumer protection.

15. DISCUSSION

The findings confirm that digital inequality is a form of social reproduction. Connectivity has expanded, but the capacity to benefit from it remains unequal. The ownership gap between rural men and women is much larger than the use gap, revealing that many women participate through devices they do not control. This distinction between access and autonomy is central to sociological analysis.

The results also show that mobile access has reduced absolute exclusion, particularly among youth. However, mobile-only connectivity may not support advanced learning, formal writing, data analysis, programming or professional content creation. A hierarchy is therefore emerging between basic mobile users and advanced multi-device users.

Bourdieu's theory explains this hierarchy through the accumulation and conversion of capital. Families with income, education and strong networks acquire superior devices and skills. These digital resources then produce further educational and occupational advantages. Weber's concept of social closure explains how online-only procedures create hidden entry barriers. Sen's capability approach demonstrates why possession of a device is not equivalent to meaningful freedom.

Intersectionality clarifies why the largest disadvantages are concentrated among people facing multiple inequalities. A low-income rural woman from a historically marginalised caste may confront weak infrastructure, limited education, restricted mobility, patriarchal control and language barriers at the same time.

Area	Main result	Sociological meaning
Connectivity	Rapid expansion	Absolute exclusion is declining.
Ownership	Large rural gender gap	Household access conceals internal inequality.
Use	Some women use devices they do not own	Access may be dependent rather than autonomous.
Skills	Persistent gender and sector differences	Second-level inequality remains strong.
Caste and class	Education and income shape access and returns	Historical inequality enters the digital sphere.
Institutions	Online systems improve efficiency but can exclude	Digital requirements may create social closure.

The most important policy implication is that subscriber numbers should not be treated as proof of social inclusion. Outcomes in education, employment, health, welfare and personal autonomy provide a more meaningful standard.

16. RECOMMENDATIONS

Recommendation	Required action
Treat connectivity as essential infrastructure	Affordable and reliable internet should be approached like electricity, transport and public education.
Measure individual access	Surveys should distinguish household availability, personal ownership, shared use and independent control.
Support women's device ownership	Subsidised devices and training should target women in low-income and rural households.
Create community digital centres	Centres should provide computers, broadband, printing, trained assistance and privacy-protected services.
Teach advanced digital literacy	Education should include documents, spreadsheets, research, cybersecurity, misinformation and responsible AI use.
Expand regional-language services	Government, education and health platforms should use clear regional-language and voice interfaces.
Retain offline alternatives	Essential welfare, legal, health and educational services should never become exclusively digital.
Design for disability access	Platforms should support screen readers, captions, keyboard navigation, voice commands and adjustable text.
Strengthen cybersecurity protection	Citizens need training on passwords, phishing, fraud, privacy and personal-data protection.
Measure outcomes	Policy evaluation should examine education, employment, income, health, autonomy and civic participation.

17. CONCLUSION

India's digital transformation has expanded communication, education, finance and public-service delivery. Yet it has not eliminated social inequality. Class, caste, gender, education and location continue to shape ownership, autonomy, skills and outcomes. The evidence demonstrates particularly large gender inequalities in rural mobile ownership and persistent differences in basic digital skills.

Digital inequality must be understood through three levels: access, capability and outcomes. Policies that focus only on connections address the first level while neglecting the social conditions required for meaningful participation. Digital development should ultimately expand dignity, autonomy, equality and democratic citizenship. The success of digital policy should therefore be judged by improvements in life chances, not by the number of subscriptions alone.

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