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Algorithmic Society: Artificial Intelligence, Digital Infrastructures and the Reconfiguration of Social Stratification in India

Gagan Ojha*

Research Scholar, Department of Sociology, University of Rajasthan, Jaipur, Rajasthan, India.

*Corresponding Author: gaganojha21@gmail.com

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ABSTRACT

The rapid growth of Artificial Intelligence (AI) and digital infrastructures is transforming social, economic, and governance systems in India. This study examines how AI, algorithmic governance, and digital technologies are reconfiguring patterns of social stratification and inequality. Using a qualitative descriptive research design and secondary data sources, the study reviews scholarly literature, policy reports, and digital economy publications related to AI, social inequality, and digital transformation. The findings indicate that expanding digital infrastructure and AI adoption have created new opportunities for economic participation, education, and public service access. However, significant disparities persist due to unequal access to digital technologies, digital literacy, and technological skills. The study also highlights the risks of algorithmic bias and social exclusion affecting marginalized populations based on class, caste, gender, and geographic location. It concludes that while AI can promote development and social mobility, inclusive digital policies, ethical AI governance, and improved digital literacy are essential to ensure equitable participation in India's emerging algorithmic society.

Keywords: *Artificial Intelligence, Algorithmic Society, Social Stratification, Digital Divide, Digital Infrastructure, India.*

Introduction

Artificial Intelligence (AI) and digital technologies are changing societies by changing the way people communicate, work, access services, and economic participation. The digital transformation in India was fast-tracked by initiatives like Digital India, increased internet availability and accessibility, digital payment regimes, and e-governance platforms. Growing adoption of AI is propelling innovation in economic activity sectors such as healthcare, education, agriculture, banking and public administration. In its new report, the Indian Brand Equity Foundation, also known as IBEF (2024), states that India is ushering in a new era of development with the arrival of AI (artificial intelligence), which is on its way to becoming one of the key driving forces of the technological transformation of the future and economic growth opportunities. Rapid penetration of Digital identity systems, online platforms, mobile internet services, and digitalization of Government services has made both information and public services more accessible. These trends have opened up new avenues for increased social and economic inclusion while also strengthening the digital economy of the country (Kumar et al., 2024).

On the other hand, the growth of AI and increasing presence of digital technologies raises issues of social stratification, inequality. Social stratification is the systematic ranking of different groups in a hierarchy, which gives groups different access to resources, opportunities, and social advantages. Disparities in socio-economic status such as caste, class, gender, education and geographic location are likely to play a role in an uneven access to digital technologies and digital skills, both direct and indirect,

in India. The rise of AI-powered opportunities is expected to augment the lives of those with sufficient access to both technology and digital literacy, while marginalizing those who are least tech-savvy and least likely to have digital access—deepening the digital divide (Kumar et al., 2024).

The role of AI and digital infrastructures in shaping the social inequalities and opportunities in India, that is why is this so important to understand such a relationship; simply because the use of technology can either exacerbate already-recognized inequalities, or create new forms of exclusion and differential access to the benefits it gives rise to. The research addresses key sociological debates on digital inclusion and suggests that asymmetrical technological development should be addressed in our growing algorithmic society.

Review of Literature

- **Social Stratification and Technology**

Social stratification is the arrangement of people and groups in a society that is based on unequal access to good. Most sociological theories, classical and contemporary work on inequality, rely on classical concepts of social justice. Marx focused on economic class as the chief determinant of stratification, suggesting that whether or not people own the means of production is what gives them their place in society. Weber developed this view by adding status and power to economic in his analysis, thus creating a multidimensional concept of social inequality (Azarkievič&Azarkievič, 2015).

Using the stratification theory, Bourdieu introduced the idea of economic, social, and cultural capital. Pierre Bourdieu describes how inequalities are maintained by who has access to resources, education, social networks and cultural advantages. These theoretical perspectives continue to play the role of technology in modern societies. Given the increasing embedding of digital technologies into daily life, forms of technological access and digital skills can serve as forms of capital that shape social mobility and opportunities in life (Demir, 2023).

Accessing information, education, and employment can also be made much easier through technology. On the other hand, the limited access to technological mergers can reinforce sectoral divisions! While those with higher levels of education, income and digital literacy tend to be the most able to capitalize upon the advances of technology, the vulnerable can often find themselves at even greater levels of disadvantage. Thus, technology is one of the most persuasive factors that influence the modern trends of social stratification (Demir, 2023).

- **Algorithmic Society**

The concept of an algorithmic society describes a social environment in which algorithms increasingly influence decision-making processes across economic, political, and social domains. Algorithmic governance is the use of automated systems and data driven processes to regulate behavior, allocate resources and inform institutional decision making.

According to Issar and Aneesh (2022), algorithmic governance extends beyond technological innovation and represents a transformation in how authority and control are exercised within society. Algorithms are used more widely in recruitment, education, healthcare, law enforcement, social media, and public administration. These systems analyze vast datasets and produce outputs or recommendations that shape people's opportunities and experiences.

Gritsenko and Wood (2022) argue that that algorithmic governance represents new forms of regulation where decision-making was to some extent outsourced to automated systems. Though algorithms enable enhanced efficiency and consistency, they nevertheless pose increased concerns for transparency, accountability, and fairness. As has long been the case, algorithmic influence is increasing to the extent that technological systems are now sources of major social outcomes.

The importance of algorithms in decision-making is further highlighted by Kochenderfer et al. (2022), who explain that algorithms are made to maximize decisions given fixed goals and data. But algorithmic decisions are also not completely unbiased because they ultimately rely on imperfect data and built in presumptions. So algorithmic governance has become a major sociological concern, especially where automated decisions are used to determine access to jobs, credit, education and public services.

- **Artificial Intelligence and Social Inequality**

The rapid development of Artificial Intelligence holds out both hope and risk to the quest for social equality. Labour markets are increasingly being disrupted by automation of routine task through AI

technologies while demand for advanced technical skills is increasing. According to Gao (2025), the transformation issues driven by AI are revolutionizing the workforce worldwide based on opportunities and displacement of workers in various categories.

AI's effect on employment is not even across the population. Technological change tends to favour the highly skilled with access to education and more digital expertise, while low-skilled workers or those less trained in advanced digital systems are at a greater risk of job displacement. Thus, if proper reskilling strategies are on the table, AI could then aid widening income gaps and leaving individuals behind with fewer economic opportunities (Gao, 2025).

A significant concern in this category is algorithmic bias and discrimination. Moussawi et al. (2024) contend that when trained on datasets containing historical prejudices about groups of people, AI systems likely will unintentionally embed and reproduce those prejudices within their decision-making capabilities. Algorithmic outputs can be in the form of these biases based on race, gender, class or other social characteristics, translating historical inequalities present in data.

Similarly, Kordzadeh and Ghasemaghaei (2022) pointed out that algorithmic bias originates from different mechanisms, such as data selection, model design and human decision making in the development of the system. These biases can harm access to jobs, credit, healthcare, and other critical services. Thus, the purpose of examining this link between AI and social inequality is critical in the construction of fairer and equitable technological platforms.

- **Digital Divide in India**

The digital divide refers to the digital inequalities in the access to the digital technologies, the internet connectivity, and digital skills. Though India has made strides in digitization, the country still sees significant gaps in digital access across various social groups and regions.

Table 1: Urban–Rural Digital Divide In India

Indicator (2024)	Urban India	Rural India
Internet Penetration (%)	76	58
Digital Literacy (%)	67	38
Smartphone Ownership (%)	84	56
Access to Online Education (%)	72	45
Use of Digital Financial Services (%)	78	49

Source: Adapted from Biradar et al. (2026), SPM (2026), Ministry of Communications (2024), and Telecom Ministry Statistics.

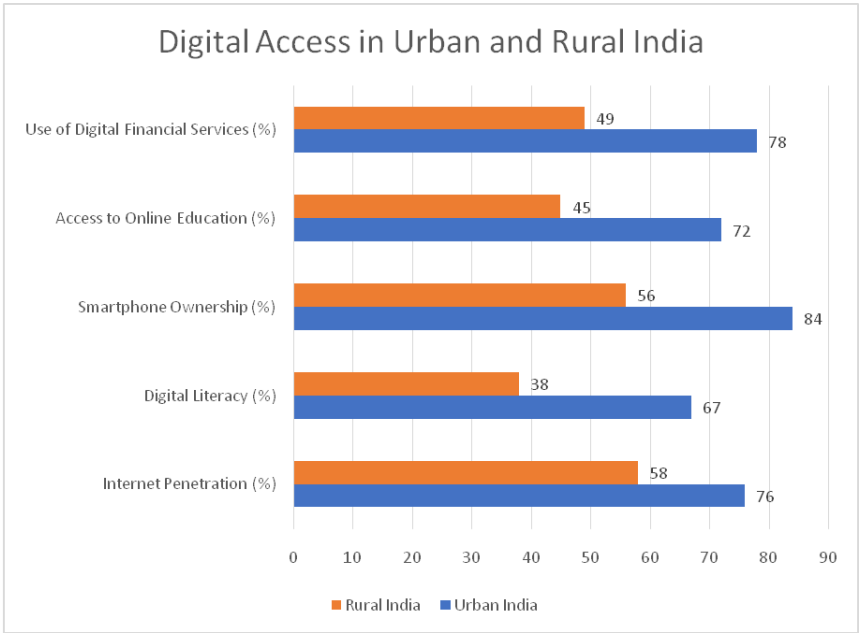

Figure 1: Comparison of Digital Access in Urban and Rural India

The data shows that urban citizens have significantly greater digital access and ability than rural populations. AI and digital technologies are increasingly integral to winning education, employment and public services and these differences may reproduce new digital forms of privilege and exclusion. Thus, bridging the rural-urban digital divide is indeed a necessary step in achieving equitable digital participation in India's economy and minimizing digital divides based on technology.

According to the research carried out by SPM (2026), normal economic and technological aspects of rural populations often make the available internet unaffordable contemporary literacy difficult and technological infrastructure less developed. Such barriers restrict access to education, employment and civic engagement increasingly conducted through digital channels. In turn, there is the risk that rural communities are excluded inheritance of digital transformation.

Biradar et al. (2026) further identify a significant rural-urban digital divide in India. Urban populations have more access to internet services, devices and technical skills than rural residents. Digital access is also determined by socio-economic conditions like education, income, job dignity, and the area thereof. Such differences drive further entrenched social stratification, with unequal access to the new economic opportunities provided by the digital economy.

- **Research Gap**

Existing literature provides valuable insights into social stratification, algorithmic governance, artificial intelligence, and the digital divide point to the kinds of consequences that concern readers of the report. Research has looked at conventional inequality theories, how algorithmic systems function, the impact of AI on labour markets, and uneven access to digital technologies and communications; Yet, sociologically oriented studies have had little space for their integration in the Indian context. In particular, there is very little research that analyzes the combined role AI, digital infrastructures and algorithmic governance play in reconfiguring the structuring of social stratification in India. This research attempts to fill the gap between technological change and novel patterns of social stratification in an algorithmic society.

Research Objectives

- To examine the impact of AI on social stratification in India.
- To analyze the role of digital infrastructures in shaping access to opportunities.
- To investigate how algorithmic systems may reinforce or reduce existing inequalities.
- To explore the implications of AI-driven decision-making for marginalized communities.
- To suggest measures for inclusive and equitable digital development.

Methodology

- **Research Design**

The research design selected for this study was a qualitative descriptive study to explore the nexus between Artificial Intelligence (AI) and digital infrastructures, thereby affecting social stratification and inequality in India. Qualitative research was chosen because it provides an opportunity to understand social phenomena, inequities, and technological transformations through the interpretation of relevant literature and documented evidence.

- **Data Source**

The study relies exclusively on secondary data. There were no primary data collected, as surveys, interviews or observational studies. It is appropriate to use secondary sources because these provide a large body of literature on scholarly articles and empirical examples on AI, algorithmic governance, digital transformation, and social inequality.

Data were collected from the following sources:

- Peer-reviewed journal articles
- Academic books and book chapters
- Government reports and policy documents
- Reports from international organizations
- Digital economy and AI-related publications
- Scholarly conference papers and research reports

- **Data Analysis Method**

The collected secondary data were analyzed using thematic analysis. The qualitative data covered within the selected literature was systematically reviewed, and the major themes were categorized under the keywords: social stratification and technology, algorithmic governance, artificial intelligence and inequality, digital divide, digital transformation of India. The themes were interpreted to detect patterns, interrelate these themes and validate the new challenges around social change through AI and social stratification in India.

Findings and Discussion

- **Expansion of Digital Infrastructure in India**

The findings indicate that India has experienced significant growth in digital infrastructure over the past decade. The delivery of public and private services too has all changed qualitatively as a result of increased penetration of the internet, near-universal adoption of the smartphone, standardized and lowered-cost digital payment systems and the availability of online service platforms. Various government initiatives under the ambit of Digital India program have fostered digital inclusion through the provisioning of e-governance, digital identity systems, online public services, etc. It has been observed that digital governance initiatives have improved public participation and made electronic platforms that are less hard to come by (Singh, 2026). Digital channels accessible to citizens have made welfare schemes, banking access, healthcare information and educational resources easily available.

- **AI and Emerging Social Hierarchies**

According to the previous literature, Artificial Intelligence is a new kind of social stratification based on digital skills and technological competences. Although conventional inequalities in India centered around caste, class, and education, the New Economy: driven by AI, began to reward citizens with a deeper skillset and a higher level of technical knowledge. Many organizations are looking for data analysts, programmers, machine learning specialists, and digital professionals due to an increase in the adoption of AI.

Nyale et al. (2026) argue that the increasing demands for digital skills have deepened the divide between those with technological skills and those without. Thus, access to education and digital training is an essential driver of social mobility. People with higher-level digital skills are much more likely to land high-paid jobs and be successful in the knowledge economy.

Similarly, Ali and Ali (2026) emphasize that digital literacy acts as a detour to achieving lifelong learning and socio-economic progress. Nonetheless, disadvantaged communities struggle to gain access to digital learning and technological equipment. Thus, AI could set the stage for entirely new types of digital inequality in which well-skills digitally literate individuals will be further entrenching their economic and social advantages. Such findings resonate with Bourdieu's idea of capital, in which the digital skills represented nowadays a modern cultural capital shaping a position in the social hierarchy of an individual (Demir, 2023).

- **Algorithmic Bias and Social Exclusion**

The findings reveal that algorithmic systems may unintentionally reproduce existing social inequalities. AI systems rely on large datasets to generate predictions and recommendations. When these datasets contain historical biases, automated systems can perpetuate discriminatory outcomes. Moussawi et al. (2024) argue that algorithmic bias emerges from biased data, design choices, and institutional practices embedded within technological systems.

There is the potential for bias algorithmically in India, primarily against members of underprivileged communities based on caste, class, gender, language, and geography. For instance, automated recruitment systems may give preference to candidates from privileged educational backgrounds, or language-based algorithms may impose a disadvantage on people who communicate in a regional language. According to Kordzadeh and Ghasemaghaei (2022), algorithmic bias shapes individuals' ability to access employment, financial services, healthcare, and other educational opportunities.

These results indicate that technological systems are not completely impartial. Rather, they are often a reflection of larger systems and social inequities. This indicates that any profit-driven decision-making powered by artificial intelligence, which lacks safeguards and transparency, can exacerbate, facilitate, or even produce social exclusion.

- **Digital Divide and Unequal Opportunities**

Despite significant digital progress, substantial inequalities in access to technology continue to exist across India. One of the most visible figures in the literature is the ongoing rural-urban digital divide, otherwise known as the gap between the rural and urban population, defines the difference in internet access, internet affordability, digital literacy and technology infrastructure. SPM (2026) found that rural communities face multiple barriers to digital participation, limiting access to information, education, and economic opportunities.

Similarly, Biradar et al. (2026) identified income, education, and geographic location as major determinants of digital access. Urban populations generally possess greater access to digital resources than rural populations. These disparities affect opportunities for online learning, remote employment, digital entrepreneurship, and access to government services.

The unequal distribution of digital resources establishes unequal access to opportunities, deepening the social inequalities that already exist. Those who have less access to technology are less able to obtain these opportunities in the digital economy and may be further excluded from services that increasingly depend on digital platforms

- **Implications for Social Mobility**

The findings suggest that AI and digital infrastructures have both positive and negative implications for social mobility. On one hand, Digital technologies can be an enabler for developing an economy through online learning, digital business starting and remote work, as well as access to information. People can learn new skills and access upcoming areas of the economy without being location-dependent.

On the other hand, the technological transformation can aggravate the inequalities of populations digitally marginalised. Those without internet access, digital skills, and access to technology struggled to compete in ever more digital knowledge and labor markets. As such, AI-labour markets are characterised by structural change; they threaten economic exclusion for low-skilled labour, a very high risk (Gao 2025).

From the sociological point of view, an algorithmic society has been emerged where traditional forms of stratification are transformed. The factors leading to social status and opportunity are access to technology, digital skills and algorithmic visibility. Thus, investments in digitally-enabled education, equal access to technological devices, and unbiased governance of emerging technologies become crucial so that the advantages of innovation trigger social mobility, rather than just grow and bolster issues of core inequality.

Conclusion and Recommendations

The study examined how Artificial Intelligence (AI), digital infrastructures, and algorithmic systems are reshaping social stratification in India. The findings reveal that that the digital transformation with an emphasis on creating better internet access, e-governance schemes and AI-based systems has increased access to information, services, education and economic opportunities. Nevertheless, none of these developments are felt equally across the world. The gap between those that have access to digital technology, those that can use it (skills), their level of education, their income, and even their geography, is creating new inequality. Furthermore, the rise of algorithmic decision-making and AI-enabled systems whose processes are less transparent has led to concern about bias, discrimination, and the lack of representation of diverse communities. This is why digital and technological skills and resources are emerging as key determinants of social mobility and social status in modern India.

Policymakers need: To promote universal digital access especially in rural and underserved areas for inclusive development. We should expand investments in digital literacy and AI-related skills training to bridge the technology gap. Governments and institutions should also establish ethical AI frameworks that guide transparency, accountability, fairness and other aspects of algorithmic decision-making. In addition, lasting audits in AI systems must be made so that bias can be detected and remedied. Through a combination of cross-cutting technological innovation and inclusive technical policy, India has the prospect of benefiting from the positive upsides of both AI and digital transformation, particularly through lessening social inequalities and social mobility that improves universal opportunities.

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