



Artificial Intelligence and Social Change: A Sociological Study in the Context of Indian Society

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Abstract

In the twenty-first century, Artificial Intelligence (AI) has moved beyond being merely a technological innovation and has emerged as an important force influencing the structure of social life, institutions, and human behaviour. Machine learning, natural language processing, computer vision, robotics, and, particularly, Generative AI have accelerated changes in traditional patterns of knowledge production, communication, education, employment, healthcare, governance, markets, and cultural expression. However, the impact of these transformations is not uniform across society. Individuals and groups with better access to digital technologies, high-quality internet connectivity, technical knowledge, and economic resources are generally better positioned to benefit from AI, whereas digitally disadvantaged groups may encounter new forms of inequality.

From a sociological perspective, the study of AI is significant because technology does not function as a socially isolated or inherently neutral entity. Its development, deployment, and consequences are closely associated with social structures, economic systems, institutional power, culture, and human values. AI is transforming the nature of employment; redefining the roles of teachers and students in education; increasing digital mediation in family and social relationships; potentially creating new forms of inequality between rural and urban populations; and adding new layers of digital inequality to existing patterns of social stratification.

According to the International Labour Organization's 2025 study, approximately one in four workers globally is employed in an occupation with some degree of exposure to Generative AI. However, the study indicates that, in most cases, the transformation of jobs and tasks is more likely than the complete elimination of occupations. In India, the IndiaAI Mission seeks to harness the potential of AI for socio-economic development while promoting AI infrastructure, skills, innovation, and responsible AI. At the same time, NITI Aayog has identified principles such as safety, equality, inclusion, privacy, transparency, and accountability as important dimensions of responsible AI.

This paper examines the relationship between AI and social change from a sociological perspective. It analyses the implications of AI for employment, education, youth, rural society, social inequality, culture, family, social relationships, governance, and ethics in the Indian context. The central argument is that AI should not be understood merely as a question of technological efficiency; rather, it must be examined in relation to social justice, human dignity, equal opportunity, and democratic accountability.

Keywords: Artificial Intelligence, Social Change, Generative AI, Digital Divide, Social Inequality, Employment, Education, Rural Society, Sociology, Technological Change.

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I. Introduction

Throughout human history, technological transformation has been an important driver of social change. Agricultural technologies contributed to the emergence of permanent settlements; industrial machines transformed production systems and labour relations; and information and communication technologies dramatically increased the speed of communication and knowledge dissemination. Artificial Intelligence represents a new and increasingly influential phase in this continuing process of transformation.

Artificial Intelligence refers broadly to computer-based systems capable of performing tasks that are generally associated with human intelligence, such as learning, pattern recognition, language understanding,

decision support, problem-solving, and content generation. In recent years, the development of Generative AI has brought this technology from specialised research environments into everyday social life. Students are using AI for learning and writing, teachers are employing it to develop educational materials, businesses are adopting it for customer services and analytical activities, and administrative institutions are increasingly exploring data-driven decision-making (Pal & Kashyap, 2020).

It would therefore be inadequate to describe AI simply as a technological development. Its entry into society is influencing social relationships, roles, institutions, and patterns of power. The central question is not simply whether machines will become more intelligent than human beings, but rather how AI will redistribute power, which groups will benefit from its development, which groups may be left behind, and what new norms may emerge as human-machine relationships expand.

Sociology is fundamentally concerned with the study of social relationships, institutions, structures, and social change. AI therefore represents a significant new social phenomenon for sociological investigation. The crucial questions include who develops AI, for what purposes it is used, who controls its resources, how its benefits and risks are distributed, and how human values shape its deployment.

The Concept of Artificial Intelligence and Social Change

Social change refers to transformations over time in the structure of society, institutions, values, roles, behavioural patterns, and social relationships. Social change can occur gradually or rapidly, and technological development has historically been one of its major driving forces.

AI can be understood as a factor of social change at three interconnected levels.

The first is the individual level. AI is changing how individuals learn, work, communicate, and access information. The second is the institutional level, where institutions such as education, healthcare, markets, employment systems, and government are restructuring their practices around AI. The third concerns the level of social structure, where access to skills, capital, data, and technological resources may generate new forms of social power and inequality.

From this perspective, AI is more appropriately understood as a socio-technical process rather than through the lens of technological determinism. Technological determinism assumes that technology independently transforms society. A sociological perspective goes further by asking who develops technology, what social purposes it serves, who controls its resources, and how its benefits and risks are distributed.

AI and the Changing Nature of Employment

One of the most significant social implications of AI concerns employment. During the Industrial Revolution, machines primarily transformed forms of physical labour. The current AI revolution is different because it increasingly affects cognitive and knowledge-based activities as well. Writing, translation, data analysis, customer service, coding, design, and administrative work are increasingly being supported or partially automated through AI.

The International Labour Organization's 2025 analysis indicates that approximately one-quarter of workers worldwide are employed in occupations with some level of exposure to Generative AI. An important finding of the study is that, for most occupations, the transformation of tasks is more likely than complete occupational replacement. Consequently, the question for the future is not simply whether AI will eliminate jobs, but how the nature of employment will change in collaboration with AI.

Some tasks may become automated, while new forms of employment may emerge. Roles related to AI operations, data management, AI governance, prompt design, AI auditing, and digital security may expand. At the same time, demand for repetitive administrative tasks may decline.

From a sociological perspective, this represents a reorganisation of labour. If productivity gains are concentrated among owners of capital and technological infrastructure, economic inequality may increase. Conversely, if the benefits of increased productivity are accompanied by education, skill development, social protection, and improved employment opportunities, technological transformation may contribute to broader social development.

Thus, reskilling and upskilling in the age of AI are not merely economic strategies; they are also mechanisms of social transformation.

AI and Social Change in Education

Education is a major institution of both social reproduction and social mobility. AI is creating new possibilities in personalised learning, automated assessment, language translation, educational content generation, and academic assistance.

Students can use AI to understand complex concepts at different levels of difficulty. Teachers can employ AI to prepare lesson plans, questionnaires, examples, and teaching materials. AI-based language and accessibility technologies may also assist students with special educational needs.

At the same time, AI presents significant challenges to education. If students begin to rely on AI-generated answers without understanding the underlying concepts, critical thinking and original writing may be weakened. Traditional forms of assessment may also require reconsideration.

The role of the teacher, therefore, is unlikely to disappear; rather, it may undergo transformation. Instead of functioning primarily as a source of information, the teacher may increasingly act as a mentor, critical evaluator, facilitator, and guide in students' intellectual and social development.

The social benefits of AI in education will depend heavily on equitable access to digital resources. If students in metropolitan private institutions have access to advanced AI tools while students in rural or economically disadvantaged communities lack basic digital facilities, AI may reproduce rather than reduce educational inequality.

Youth and Artificial Intelligence

Young people constitute one of the major social groups experiencing the transformation brought about by AI. Young people are increasingly using AI in education, employment, social media, and digital culture. As a result, their approaches to learning, career planning, communication, and self-presentation are changing.

AI can provide young people with easier access to information, but it also creates questions concerning the reliability of information. AI-generated content is not necessarily accurate. Consequently, digital literacy must increasingly be accompanied by AI literacy.

Young people's social identities are also increasingly constructed through digital platforms. AI-based image generation, recommendation systems, and conversational technologies are introducing new dimensions to this process. As a result, the relationship between online identity and offline social identity may become more complex.

AI and Social Inequality

Social inequality is one of the central concerns of sociology. The development of AI may not eliminate existing inequalities; under certain conditions, it may create new forms of digital inequality.

Digital inequality can be understood at at least three levels:

Access to digital devices;

Access to reliable and high-quality internet and digital services;

Levels of digital and AI-related skills.

In addition to these factors, data quality and language are also significant. In a multilingual country such as India, the linguistic capabilities of AI systems can influence social inclusion. If high-quality AI tools remain concentrated in a few dominant languages, other linguistic communities may receive fewer benefits.

NITI Aayog has identified equality, inclusion, and non-discrimination as important dimensions of responsible AI in India. This demonstrates that the social evaluation of AI cannot be based solely on technological efficiency; its distributional consequences must also be considered.

Rural Society and Artificial Intelligence

Understanding the social consequences of AI in India requires particular attention to rural society. AI-based applications have the potential to influence agriculture, education, healthcare, banking, and public services in rural areas.

In agriculture, AI can support weather forecasting, crop-disease identification, market information, and resource management. In healthcare, digital consultation and decision-support systems may improve access to specialised knowledge in remote areas. In education, AI can provide personalised learning assistance to rural students.

However, rural AI transformation faces distinctive limitations. Internet connectivity, electricity availability, the cost of digital devices, digital literacy, and the shortage of technological resources in local languages remain important challenges.

Therefore, simply introducing AI technologies into rural areas is not sufficient. The participation of local institutions, communities, panchayats, teachers, health workers, and civil society organisations is necessary for meaningful and inclusive technological transformation.

AI, Family, and Social Relationships

The influence of AI is also extending into family life and interpersonal relationships. Digital assistants, recommendation systems, and conversational AI are becoming part of everyday life. As a result, interactions between human beings and technologies are becoming increasingly personalised.

AI-enabled technologies can save time and facilitate access to information within families. However, excessive dependence on digital systems may also alter patterns of direct interpersonal communication.

A central sociological question is whether technology replaces human relationships or creates new forms of social relationships. There is no simple answer. The consequences of technology depend significantly on the social context in which it is used.

AI and Culture

Culture consists of language, art, literature, traditions, symbols, values, and collective memory. Generative AI has simplified the production of cultural content. Individuals can now create text, images, music, and videos with comparatively limited technical resources.

This may contribute to the democratisation of cultural production, but it also raises questions concerning cultural authenticity and intellectual property. The use of traditional art forms or cultural expressions belonging to particular communities in AI systems raises important ethical questions.

AI can also contribute to cultural preservation. It may assist in digitising local languages, preserving historical documents, and analysing cultural archives.

Thus, AI does not merely transform culture; it can also create new opportunities for cultural preservation and reconstruction.

AI, Social Control, Surveillance, and Privacy

One of the significant social dimensions of AI concerns surveillance. Facial recognition, behavioural analysis, data profiling, and automated decision-making systems may be used by governments and private organisations.

Such technologies can have legitimate applications, but the collection and use of personal data without adequate transparency and protection may threaten privacy. AI-based profiling can also reinforce inaccurate or discriminatory assumptions about social groups (Yadav & Kashyap, 2025). This concern is also consistent with the discussion of social media surveillance and privacy by Yadav and Kashyap (2025).

NITI Aayog has identified privacy and security, transparency, and accountability as important principles of responsible AI. UNESCO similarly places human rights and human dignity at the centre of AI governance.

From a sociological perspective, these issues are closely related to power and social control. The key questions include who owns the data, who analyses it, and who possesses the authority to make decisions based upon it.

AI and Social Capital

Social capital is associated with trust, networks, reciprocity, and cooperation. AI can facilitate the creation of social networks by making communication easier. However, misinformation, fabricated content, and algorithmic amplification can weaken social trust.

If individuals cannot easily determine whether information is authentic or AI-generated, the foundations of social trust may be affected. Consequently, media literacy and digital literacy are becoming increasingly important in the AI era.

The future relationship between AI and social capital will depend upon the ability of societies to maintain a balance between technological convenience and social trust.

AI, Healthcare, and Social Welfare

AI has potential applications in disease detection, medical imaging, drug discovery, and healthcare management. Digital systems may expand access to specialised knowledge in remote areas.

However, human oversight remains essential in health-related decision-making. Recommendations generated by AI should not automatically be treated as substitutes for professional medical judgement. Data quality, bias, and privacy are particularly important concerns in this field.

AI may also assist social welfare programmes in identifying beneficiaries and allocating resources. Nevertheless, automated exclusion can become a serious concern. Therefore, social protection systems using AI require mechanisms for human review, appeal, and accountability.

AI, Gender, and Social Inequality

The effects of AI may not be equally distributed between men and women. Existing gender differences in employment, occupational structures, and digital access can shape the impact of AI. Existing research on women's empowerment through self-help groups also highlights the importance of women's participation, agency, and decision-making capacity in social development (Mishra & Kashyap, 2024).

The ILO's 2025 global analysis found that women are represented more heavily than men in several occupational categories with high exposure to Generative AI. This does not mean that women's jobs will necessarily disappear. Rather, it demonstrates that the gender dimension of technological transformation requires serious investigation.

AI may create new opportunities for women in education, entrepreneurship, and flexible employment. At the same time, algorithmic bias, online harassment, and privacy risks remain important concerns.

A gender-sensitive approach is therefore necessary in AI policy and governance.

AI and Power Relations

Control over technological resources has historically been associated with social power. In the AI era, data, computing infrastructure, algorithms, and specialised knowledge have become significant resources.

If the development of AI becomes excessively concentrated among a small number of corporations or institutions, technological power may also become concentrated. Conversely, open research, public infrastructure, and democratic governance can broaden access to the benefits of AI.

India's IndiaAI Mission represents a national initiative aimed at strengthening AI computing infrastructure, datasets, skills, innovation, and responsible AI. One of its broader objectives is to expand access to AI and promote socially and economically useful applications.

Therefore, AI governance should not be understood solely as a matter of technical regulation; it should also be examined as a question of the distribution of social power.

AI and Indian Society

India is characterised by a highly diverse social structure. Caste, class, gender, language, religion, rural-urban differences, and regional diversity interact with one another. Consequently, the impact of AI in India may take forms different from those observed in Western societies.

Major opportunities include multilingual technologies, agriculture, healthcare, education, public administration, and support for small businesses. At the same time, digital inequality, linguistic diversity, data protection, and shortages of relevant skills remain major challenges.

The central question for Indian society is how AI development can be transformed into inclusive technological development. If technological development remains concentrated among affluent urban groups, social disparities may increase. If AI is made accessible to rural communities, economically weaker groups, small enterprises, and public institutions, its social benefits may become considerably broader.

The Need for Responsible AI

The social use of AI cannot be separated from human values. UNESCO's Recommendation on the Ethics of Artificial Intelligence emphasises principles such as human rights, human dignity, equality, transparency, and accountability.

In India, NITI Aayog has identified safety and reliability, equality, inclusion and non-discrimination, privacy and security, transparency, accountability, and the protection of positive human values as important principles of responsible AI.

The practical implementation of these principles requires:

greater transparency in AI systems;

protection of personal data;

regular assessment of algorithmic bias;

human oversight of important decisions;

mechanisms for complaints and appeals;

AI literacy among citizens;

special support for vulnerable groups;

reskilling programmes for workers;

AI resources in local languages; and

accountable AI governance in public institutions.

AI and Sociological Theories

The relationship between AI and social change can be analysed through several major sociological perspectives.

Marxist Perspective and AI

From a Marxist perspective, AI can be examined in terms of the means of production and labour relations. Organisations controlling AI systems, data, capital, and technological infrastructure may acquire new forms of economic and social power. At the same time, the work processes of labourers may undergo significant transformation.

Weberian Perspective and AI

Max Weber's concept of rationalisation provides another useful framework. AI can be viewed as an extension of calculative and formal rationality into decision-making and administration. Algorithmic decision-making may further expand the role of rational calculation in social life.

Durkheimian Perspective and AI

Durkheim's ideas concerning the division of labour and social solidarity can help explain the emergence of new forms of occupational specialisation associated with AI. The emergence of new technological professions and the restructuring of traditional occupations may create new forms of social interdependence.

Conflict Perspective and AI

Conflict theory examines AI in relation to unequal access to resources and power. Control over data, capital, technological expertise, and infrastructure may become a source of social power.

Structuration Perspective

Anthony Giddens' structuration perspective allows AI and society to be understood as a mutually constitutive process. Social institutions shape how technology is developed and used, while technology simultaneously reorganises the functioning of those institutions.

Opportunities for Social Transformation through AI

AI has the potential to create several positive forms of social transformation. These include democratisation of access to knowledge, personalised education, expanded healthcare access, increased productivity, assistive technologies for persons with disabilities, and digital services in local languages.

AI may provide small enterprises with analytical capabilities that were previously available primarily to large organisations. Students and researchers can use AI to organise complex information. Farmers may use AI-supported information regarding weather and markets.

However, technological possibilities do not automatically become social benefits. Institutional arrangements are required to translate technological capacity into inclusive development.

Major Challenges

The principal social challenges associated with AI can be summarised as follows.

First, employment transitions. The demand for certain tasks may decline while the demand for new skills increases.

Second, digital inequality. Unequal access to technological resources may create new layers of social inequality.

Third, data and privacy. Large-scale data collection can affect individual privacy.

Fourth, algorithmic bias. If training data reflect existing social prejudices, AI systems may reproduce those biases.

Fifth, information reliability. Generative AI can produce inaccurate or misleading content.

Sixth, human capabilities. Excessive dependence on AI may affect critical thinking, creativity, and independent decision-making.

Seventh, cultural diversity. Limited linguistic and cultural representation within AI systems may create new forms of cultural inequality.

II. Conclusion

Artificial Intelligence can be regarded as one of the significant forces shaping contemporary social change. Its impact is no longer restricted to computers and digital industries; it extends to education, employment, family life, culture, healthcare, rural society, governance, and social relationships.

AI is creating both opportunities and challenges. Employment is undergoing task restructuring, the roles of teachers and students are changing, new possibilities are emerging for rural communities, and access to knowledge is expanding. At the same time, digital inequality, privacy concerns, algorithmic bias, misinformation, and concentration of technological power are becoming increasingly important social issues.

From a sociological perspective, AI should neither be regarded simply as an instrument of progress nor viewed exclusively as a source of social danger. Its actual social consequences depend upon the social structures within which it is developed and used.

In the Indian context, the future of AI will depend significantly on whether technological development can be connected with social inclusion. Reducing the digital divide between rural and urban communities, developing AI resources in local languages, providing new skills to young people and workers, increasing the participation of women and socially disadvantaged groups, and developing strong systems of data protection and accountability are essential.

Therefore, the objective of AI should not be limited to greater automation or higher productivity. Its broader social purpose should be the development of a technological order in which human dignity, social justice, equal opportunity, democratic accountability, and inclusive development remain central values. (Agnihotri, 2026).

The future society is unlikely to be defined simply by a conflict between "humans versus machines." Instead, it is more likely to involve new forms of cooperation between humans and intelligent technologies. The

central sociological question will therefore be how societies distribute the benefits and risks of this cooperation and how technological progress can be transformed into genuine social progress.

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