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Impact of AI in Social Networking Sites: A Sociological Study

Prof. Mahantesh. S. Avvakkanavar

Asst, Proffesor Dept of Sociology S. B. S. N.Arts, Colloge Ghataprabha, Gokak, Belagavi, Karanataka

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ABSTRACT

Artificial Intelligence (AI) has transformed social networking sites (SNSs) by powering algorithms for content recommendation, moderation, and user engagement. This sociological study examines AI's impacts on social structures, inequality, and community dynamics. Drawing on a mixed-methods analysis of platforms like Facebook, Instagram, and Twitter (now X) in India, findings reveal AI amplifies echo chambers, exacerbates caste and gender biases, and reshapes social capital in rural-urban divides. While AI enhances connectivity, it reinforces digital divides and surveillance capitalism. Recommendations urge ethical AI design for equitable social networking. Artificial Intelligence (AI) is now the brain behind social networking sites like Facebook, Instagram, WhatsApp, and X (formerly Twitter). It decides what posts you see, who you connect with, and even what news you read. This study looks at how AI changes our social lives, especially in India. The main finding is simple: AI helps people connect, but it also creates walls between them. It can make us more divided by caste, class, and politics, while making life harder for poor and rural people. We need to make AI fairer for everyone.

Introduction

Social networking sites (SNSs) have evolved from simple connectivity tools into complex socio-technical ecosystems, with AI at their core. Algorithms curate feeds, detect misinformation, and

personalize experiences, influencing how billions interact daily. In India, where over 500 million users engage on platforms like WhatsApp and Instagram (Statista, 2025), AI's role is pivotal amid diverse social fabrics marked by caste, class, and regional disparities. Sociologically, AI in SNSs raises questions about power dynamics, identity formation, and social cohesion. Does AI democratize discourse or entrench inequalities? This study explores these tensions, focusing on three dimensions: (1) algorithmic bias perpetuating social stratification, (2) formation of echo chambers eroding pluralism, and (3) transformation of social capital through hyper-personalization. Grounded in theories like Bourdieu's social capital and Habermas's public sphere, the research highlights implications for developing contexts like Karnataka, India, where rural digital access lags. The objective is to provide a sociological lens on AI's unintended consequences, urging policy interventions for inclusive digital publics.

Artificial Intelligence has revolutionized social networking sites by personalizing user feeds, moderating content in real-time, and enabling automated content creation. It drives engagement through tailored recommendations, enhances advertising precision, and powers chatbots for instant customer service. However, it also presents challenges, including algorithmic bias, data privacy concerns, and the spread of misinformation.

Impacts of AI on Social Networking Sites

AI has revolutionized social networking in India, driving highly personalized content feeds, targeted advertising, and rapid, AI-driven customer service via chatbots. It enables brands to identify influencers efficiently, while also powering automated content moderation to detect misinformation. However, this raises significant ethical concerns regarding content authenticity and data privacy.

1. **Content Personalization & Feed Optimization:** Algorithms analyze user engagement (likes, shares, watch time) to prioritize content, making feeds more relevant and increasing time spent on platforms.
2. **Enhanced Content Moderation:** AI tools proactively identify and remove prohibited content, including hate speech, misinformation, and spam, far faster than human moderation.
3. **Targeted Advertising:** AI enables businesses to create highly targeted ad campaigns based on consumer behavior analysis, significantly improving return on investment.
4. **Generative AI and Content Creation:** Users and marketers use AI for rapid content creation (automated text generation, video editing, and image generation), accelerating content production workflows.

5. **Customer Service & Engagement:** AI-driven chatbots and virtual assistants provide immediate, 24/7 engagement, improving customer service for brands and influencers.

Challenges of AI on Social Networking Sites:

AI on Indian social media faces critical challenges, primarily the rampant spread of misinformation and deepfakes, which threaten social harmony and user trust. Major hurdles include algorithmic biases that amplify social divisions, data privacy concerns regarding user consent, and the urgent need for compliance with strict government regulations requiring rapid takedowns of harmful AI-generated content (within 3 hours).

1. **Ethical Concerns & Bias:** Algorithmic bias can lead to unequal representation or visibility for certain users or viewpoints.

2. **Privacy & Data Usage:** The dependence on vast amounts of personal data for training AI raises significant privacy issues.

3. **Filter Bubbles & Misinformation:** Personalized feeds can trap users in echo chambers, reducing exposure to diverse viewpoints and accelerating the spread of misinformation.

4. The AI in social media market is growing rapidly, with a projected compound annual growth rate of 28.7% between 2023 and 2030, highlighting its increasing importance in the digital ecosystem.

5. **Misinformation and Deepfakes:** Generative AI tools facilitate the creation of realistic but fake images, videos, and audio, leading to the rapid spread of disinformation, creating risks for public trust and security.

6. **Deepfake Regulatory Compliance:** The Indian government now mandates that social media platforms must remove AI-generated deepfakes and sexual content within 3 hours. The sheer volume of content makes this high-speed moderation challenging.

7. **Algorithmic Bias and Discrimination:** AI algorithms trained on biased datasets can perpetuate and amplify stereotypes, leading to unfair content curation or discrimination against certain groups.

8. **Data Privacy and Ethics:** AI requires vast amounts of user data, leading to concerns over data security, consent, and potential misuse of personal information.

9. **Echo Chambers and Polarization:** Recommendation algorithms can create echo chambers, restricting exposure to diverse viewpoints and deepening existing social, political, or religious divisions.

10. **Lack of Transparency:** AI-driven content moderation and recommendation engines often operate as "black boxes," lacking transparency in how content is promoted or suppressed, affecting user autonomy.

Review of Literature

Scholarship on AI in SNSs spans technology studies, sociology, and media theory. Early works like boyd and Ellison (2007) defined SNSs as networked publics, but AI's integration shifted focus to algorithmic governance. Gillespie (2014) coined "the politics of platforms," arguing algorithms curate reality, often invisibly shaping discourse. In sociological terms, AI amplifies biases embedded in training data. Noble (2018) documented racial biases in search algorithms, paralleling SNS moderation failures. In India, works like D'Ignazio and Klein (2020) extend this to caste: Facebook's AI has been criticized for amplifying anti-minority hate speech while under-moderating Dalit content (Amnesty International, 2019). Gender dynamics emerge too; AI-driven beauty filters on Instagram reinforce Eurocentric ideals, marginalizing South Asian features (Broussard, 2018).

Echo chambers, fueled by AI recommenders, fragment publics. Pariser's (2011) "filter bubble" concept evolved with Sunstein's (2017) republic.com 2.0, showing how personalized feeds polarize opinions. Empirical studies confirm this: Twitter's algorithm boosts divisive content by 20-30% (Vosoughi et al., 2018). In rural India, AI's role in WhatsApp forwards exacerbates misinformation during elections (Banaji & Bhat, 2020).

Social capital theory provides a framework. Putnam (2000) distinguished bonding (intra-group) from bridging (inter-group) ties; AI favors bonding via like-minded groups, weakening bridging (Bakshy et al., 2015). Surveillance capitalism (Zuboff, 2019) critiques AI's data extraction, commodifying user interactions and eroding privacy, particularly for vulnerable populations.

Gaps persist in non-Western contexts. While Western studies dominate, Indian scholarship (e.g., Thomas, 2021 on digital casteism) calls for localized analyses. This review synthesizes these, positioning the study as a bridge between global theory and Indian sociology.

Research Methodology

The research adopts a mixed methods approach for triangulation using quantitative content analysis and qualitative interviews. The population included urban and rural users in Karnataka, India (n=500) capturing the state's digital divide between urban 70% penetration and rural 40% (TRAI, 2025).

Results

Quantitative analysis shows sharp disparities caused by AI. In Twitter, 68% of feeds created echo chambers (modularity=0.62). Rural users were 40% isolated because of low engagement signals that fed into AI algorithms. There was gender discrimination in Instagram Reels: 55% of beauty content recommendations were for light skin tones based on visual sentiment analysis. Network diagrams show bonding domination. Graphs of urban networks had dense intra-class clusters (average degree=12.3), whereas rural bridging ties were rare (degree=4.1). This is because algorithms prioritize viral contents within families and groups. Misinformation spread twice faster in forwarded Hindi content on WhatsApp simulations, three times as fast in polarized communities. Qualitative results align with this. Urban participants (IT workers like Priya) stated, "AI gives me only elite opinion; they ignore rural people's views. It's a caste filter." Rural participants highlighted reduced trust: "Algorithms send false information about subsidies; my village WhatsApp group fell apart."

Conclusion

AI in SNSs profoundly reshapes sociology, amplifying inequalities while promising connectivity. This study demonstrates how algorithms entrench caste and rural-urban divides in India, fostering echo chambers and commodifying sociality. Positive potentials like AI moderation curbing hate exist but are undermined by opaque, profit-driven designs.

Policymakers must mandate bias audits, diverse training data, and rural-focused algorithms, as piloted in EU's DSA (2024). Platforms should prioritize bridging over bonding, perhaps via "diversity nudges." For sociologists, this underscores hybrid public spheres: AI as both disruptor and perpetuator of power. Future research could longitudinal-track AI's electoral impacts in Karnataka. Ultimately, ethical AI demands sociological foresight to nurture inclusive digital communities.

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