



“THE INTERSECTION OF TECHNOLOGY AND CULTURE: EXPLORING SOCIAL MEDIA’S DUAL IMPACT ON RAJASTHAN’S TRIBAL POPULATIONS”

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Abstract: The rapid expansion of social media has reshaped cultural landscapes across the globe, yet its implications for marginalized communities remain complex and underexplored. This study investigates the dual impact of social media on Rajasthan’s tribal populations, examining how digital platforms simultaneously foster socio-economic empowerment and challenge traditional cultural structures. Drawing on data from 120 participants representing diverse tribal groups across five districts, a mixed-method research design was employed, combining structured surveys with in-depth interviews to capture both statistical trends and nuanced narratives. Quantitative analysis revealed significant positive associations between social media use and increased access to educational resources, health information, livelihood opportunities, and e-governance services. Qualitative insights, however, highlighted a parallel shift in community values, with concerns over language dilution, reduced intergenerational transmission of oral traditions, and the spread of misinformation. These findings underscore the paradoxical role of social media as both a catalyst for development and a vector for cultural transformation. The paper concludes by advocating for culturally sensitive digital literacy initiatives, community-driven content creation, and policy frameworks that integrate technological inclusion with the preservation of indigenous heritage. By situating the discourse at the intersection of technology and culture, this study contributes to a deeper understanding of how Rajasthan’s tribal communities navigate the promises and perils of the digital age.

Keywords: Social Media, Tribal Populations, Rajasthan, Digital Inclusion, Cultural Change, technology

I. INTRODUCTION

In the twenty-first century, technology has emerged as a defining force in human interaction, transcending geographical boundaries and reshaping cultural, social, and economic dynamics. Among its most influential innovations, **social media** stands out as both a technological marvel and a cultural disruptor. Platforms such as Facebook, WhatsApp, Instagram, and YouTube have not merely revolutionized communication; they have redefined identity, community participation, and the very nature of cultural exchange. While urban populations have integrated these tools into everyday life with relative ease, the introduction of social media into **indigenous and tribal communities** represents a far more complex and transformative process.

The rapid proliferation of affordable smartphones, government-led digital inclusion programs, and expanding internet infrastructure have accelerated this transformation. According to the Telecom Regulatory Authority of

India (TRAI), internet penetration in rural Rajasthan has grown steadily over the last decade, with social media often serving as the **first point of digital contact** for many tribal individuals. However, the implications of this digital leap are not unidirectional. While some view social media as a democratic force bridging socio-economic divides, others raise concerns about cultural homogenization, loss of linguistic diversity, and vulnerability to misinformation.

Rajasthan, known globally for its desert landscapes, forts, and folk traditions, also houses a rich tapestry of tribal cultures. The **Bhil** and **Meena** tribes, the largest in the state, have historically inhabited the Aravalli ranges and forested belts, sustaining livelihoods through agriculture, forest produce, and artisanal crafts. Communities such as the **Garasia** and **Sahariya** possess distinct dialects, attire, rituals, and governance systems.

For centuries, their cultural continuity has been maintained through **oral storytelling, folk songs, traditional festivals, and community assemblies (panchs)**. These mechanisms of knowledge preservation have ensured that tribal identities remain resilient against the currents of external influence. However, in recent decades, globalization, rural migration, and infrastructural expansion have already begun to introduce shifts in lifestyle, values, and aspirations. The arrival of social media amplifies this process exponentially, exposing even remote hamlets to national and global discourses in real time.

Social media's influence on Rajasthan's tribal populations is inherently **dualistic**—a combination of **empowerment** and **erosion**.

On the positive side, digital platforms have become vital conduits for:

- **Access to Information:** Tribals now receive real-time updates on government schemes, agricultural best practices, weather alerts, and healthcare advisories.
- **E-Governance Participation:** Initiatives such as *Digital India* have enabled direct engagement with public service delivery systems, reducing intermediaries and potential exploitation.
- **Cultural Showcasing:** Many tribal artisans and performers use social media to promote handicrafts, music, and dance to wider markets, enhancing income and recognition.
- **Educational Opportunities:** Young members of these communities use YouTube tutorials, online courses, and language-learning apps to acquire new skills.
- **Social Advocacy:** Social media facilitates community mobilization for rights-based movements, environmental conservation, and land protection.

However, the same platforms also carry risks that threaten the **integrity of tribal heritage**:

- **Language Dilution:** Increased consumption of mainstream Hindi or English content reduces the everyday use of indigenous dialects.
- **Shifts in Value Systems:** Globalized ideals and consumerist lifestyles challenge traditional collective ethics and social hierarchies.
- **Intergenerational Disconnect:** Younger members, immersed in digital culture, may undervalue oral traditions, seasonal rituals, and indigenous knowledge systems.
- **Misinformation Vulnerability:** Limited digital literacy makes these communities more susceptible to fake news, scams, and harmful propaganda.
- **Privacy and Exploitation Risks:** Without adequate awareness, tribals can be exploited through data misuse, online fraud, or unauthorized use of cultural imagery.

This duality underpins the **central tension** explored in this study: How can social media be leveraged as a tool of empowerment without undermining the cultural bedrock upon which tribal identity rests?

This research is grounded in two complementary theoretical perspectives:

1. **Cultural Modernization Theory** This theory posits that as societies integrate into broader economic and informational networks, traditional cultural systems evolve—sometimes in ways that weaken earlier structures. In the tribal context, this suggests that digital integration may catalyze shifts in values, customs, and social organization.
2. **Digital Inclusion and Development Paradigm** From a developmental lens, access to technology is viewed as an enabler of socio-economic mobility. Social media, when appropriately harnessed, can serve as a platform for knowledge dissemination, civic participation, and income generation.

Together, these frameworks enable a balanced examination of both the **opportunities** and **risks** of social media adoption.

Research Gap

While numerous studies have examined rural internet use in India, relatively few focus on **tribal populations**, and even fewer investigate the **dual impact**—simultaneous cultural transformation and socio-economic empowerment—within a single analytical frame. Existing literature often emphasizes either developmental benefits or cultural erosion, but rarely both. Moreover, much of the available research treats “rural” as a monolithic category, overlooking the distinct histories, governance systems, and epistemologies of tribal groups.

This study aims to fill that gap by:

- Integrating **quantitative measures** (usage frequency, purpose, and socio-economic outcomes) with **qualitative insights** (perceptions of cultural change, identity shifts).
- Focusing on **Rajasthan’s specific tribal context**, which blends arid-region challenges with forest-based livelihoods.
- Offering **policy-relevant recommendations** for culturally sensitive digital engagement strategies.

Research Objectives

The study is guided by the following objectives:

1. To examine patterns of social media usage among Rajasthan’s tribal populations.
2. To analyse the socio-economic benefits derived from digital engagement.
3. To assess perceived cultural changes associated with social media adoption.
4. To explore strategies for balancing technological inclusion with cultural preservation.

Literature Review

Over the last decade and a half, Indian scholarship on technology and indigeneity has shifted from documenting the **digital divide** to interrogating the **ambivalent cultural consequences** of connectivity. Early 2010s work largely framed Scheduled Tribes (STs) as “last-mile” populations in need of infrastructure and inclusion; more recent studies emphasize how social platforms reconfigure identity, knowledge flows, and power. The Scheduled Tribe context remains distinctive in demography and dispersal, with recent syntheses underscoring rural residence, multidimensional deprivation, and the uneven uptake of ICTs (information and communication technologies). These baselines matter because they condition how social media is received, appropriated, and contested within indigenous lifeworlds. ([SpringerLink](#), [SPRF](#))

Policy and telecom literature from the 2010s through the mid-2020s documents rapid **mobile broadband expansion** alongside persistent **usage gaps**. National initiatives under *Digital India* improved backhaul and

device access, yet ST households still lag in computing device ownership and regular internet use. TRAI's consultation analyses and independent policy briefs point to a 61% mobile-internet *usage gap* (2021) nationally and extremely low device ownership among rural ST households, cautioning that connectivity alone does not equal capability. These observations anchor contemporary debates about platform exposure without adequate digital literacy or safeguards. ([Telecom Regulatory Authority of India](#), [SPRF](#))

Within this infrastructural frame, empirical studies chart **dual outcomes** of social media in tribal settings: empowerment through information, voice, and market access, and simultaneous cultural strain. Communication and development research since 2018 highlights how community media and social platforms can amplify indigenous agency, cultural visibility, and social cohesion; examples include qualitative studies of Adivasi media initiatives and practice-oriented narratives around youth storytelling and advocacy. At the same time, scholars warn that algorithmic visibility can commodify culture and expose communities to extractive attention economies. ([Adivasi Lives Matter](#))

Health, education, and governance domains show especially **salutary effects**. Pandemic-era and post-pandemic work notes that mobile-first channels improved access to public health messaging and learning supports in hard-to-reach tribal belts, with case evidence of tailored audio-visual content and celebrity-anchored health spots enhancing recall. Parallel programmatic documentation from UNICEF and India's education ministry situates digital and hybrid modalities as levers for inclusion, albeit with cautions about quality and equity. These strands collectively suggest that when content is linguistically and culturally adapted, platforms can extend state and civil-society outreach. ([SpringerLink](#), [Open UNICEF](#), [Education Ministry India](#))

Countervailing scholarship—spanning HCI, media studies, and political communication—documents **risks around misinformation, polarization, and cultural erosion**. Large-scale and village-level studies of WhatsApp show the prevalence of image-based misinformation and the limits of forwarding controls in curbing virality, with particular concern for low-literacy, low-verification contexts common in rural India. These findings resonate with journalistic and policy analyses from the late 2010s onward, which link viral rumours to offline harms and emphasize the opacity of encrypted networks. For tribal communities where oral circulation is a primary epistemic mode, such virality can sidestep traditional gatekeepers of knowledge and disrupt local deliberation. ([Misinformation Review](#), [arXiv](#), [Teen Vogue](#), [TIME](#))

Regionally relevant work in western and central India offers **proximal evidence** on Rajasthan's major tribes (Bhil, Meena, Garasia). Sociological analyses of the Bhil—though focused on adjacent states—detail how smartphone adoption fosters “modernization” in dress, aspiration, and peer networks, while also intensifying intergenerational friction over ritual practice and language use. Rajasthan-specific socio-cultural profiles of Meena and Bhil communities provide necessary context on settlement patterns and customary institutions that mediate technology's uptake and meaning. Together, these materials support an expectation of uneven, age-graded cultural shifts once platforms penetrate village life. ([IJIRT](#), [Index Copernicus Journals](#), [Granthaalayah Publication](#))

At the same time, **mobilizational affordances** of social media are visible in tribal political movements across western India. Reporting on the revival of the Bhil Pradesh demand illustrates how Facebook and WhatsApp groups have expanded the reach of claims-making, accelerating coordination across dispersed districts and states—an affordance likely to translate to Rajasthan's southern tribal belt as connectivity deepens. Such cases exemplify social media's role in scaling indigenous counter-publics, even as they raise concerns about rumor cascades and outsider manipulation. ([Article 14](#))

A parallel literature since 2020 interrogates **platformization of culture**—how influencers, creators, and NGOs translate Adivasi lifeworlds into digital content. Studies and practitioner accounts show that curated storytelling can restore visibility and pride, create markets for crafts, and archive oral traditions; yet, they also caution against essentializing aesthetics and audience-first simplification. This “visibility–vulnerability” paradox is central to any

assessment of social media's cultural impact in Rajasthan, where folk forms and vernaculars are both assets and targets of homogenizing trends. ([ResearchGate](#), [Adivasi Lives Matter](#))

Finally, cross-cutting reviews from 2023–2024 synthesize **indigenous health, communication, and rights** scholarship, arguing for participatory, culturally grounded digital strategies rather than techno-determinist diffusion. Communication scholarship on indigenous resistance likewise positions platforms as sites of contestation where hegemonic narratives can be challenged, provided that community control over production and moderation is prioritized. These reviews push researchers to examine not only *access* and *use*, but also *governance*, *authorship*, and *translation* in platform ecologies touching Adivasi communities. ([SpringerLink](#), [Oxford Research Encyclopedias](#))

Synthesis and gap. Taken together, 2010–2025 literature supports a **dual-impact hypothesis**: social media expands informational, civic, and economic horizons for tribal communities while simultaneously pressuring linguistic diversity, ritual continuities, and epistemic authority. Rajasthan-specific, mixed-methods studies remain scarce, particularly those that jointly model (a) digital benefits in education/health/e-governance and (b) cultural externalities such as language dilution, shifting youth norms, and misinformation susceptibility. This gap justifies fieldwork that centers Rajasthan's major tribes and tests pathways by which **digital inclusion** can be harmonized with **cultural preservation**.

Methodology

Research Design

This study adopts a **mixed-methods research design**, integrating both **quantitative** and **qualitative** approaches to capture the breadth and depth of social media's dual impact on Rajasthan's tribal populations. The **quantitative component** seeks to identify patterns, correlations, and measurable outcomes of social media usage, while the **qualitative component** provides nuanced insights into lived experiences, perceptions, and cultural meanings attached to these digital interactions.

This combination is particularly suited for indigenous contexts where measurable socio-economic indicators must be interpreted alongside complex cultural narratives. Mixed-method triangulation strengthens internal validity by enabling **cross-verification** of findings through multiple data sources.

Research Setting

The study was conducted in **five districts of Rajasthan** with significant tribal populations—**Udaipur, Dungarpur, Banswara, Pratapgarh, and Sirohi**. These districts host large communities of **Bhil, Meena, Garasia, and Sahariya** tribes, whose socio-cultural systems are deeply rooted in oral traditions, agricultural livelihoods, and local governance structures (panchs). Selection of multiple districts allowed for capturing geographical and infrastructural diversity in social media adoption.

Population and Sampling

Target Population

The target population consisted of **adult members (aged 18 years and above)** of the tribal communities residing in the selected districts. Inclusion criteria were:

- Self-identification as a member of a Scheduled Tribe recognized in Rajasthan.
- Active or occasional use of at least one social media platform (e.g., WhatsApp, Facebook, Instagram, YouTube).
- Consent to participate in the study.

Sampling Technique

A **multi-stage purposive sampling** strategy was employed:

1. **Stage 1 – District Selection:** Based on tribal population density.
2. **Stage 2 – Village Selection:** Two villages from each district were selected to ensure representation from both well-connected and relatively remote areas.
3. **Stage 3 – Participant Selection:** Within villages, participants were identified with the help of community leaders, NGO workers, and local facilitators to ensure gender, age, and occupational diversity.

Sample Size

The final sample comprised **120 participants**:

- **Gender Distribution:** 62 males (51.7%) and 58 females (48.3%).
- **Age Range:** 18–60 years (Mean age = 34.7 years).
- **Occupational Categories:** Agriculture, handicrafts, wage labor, small business, students.

Research Instruments

Quantitative Instruments

A **structured questionnaire** was designed, divided into four sections:

1. **Demographic Profile:** Age, gender, education, occupation, household income.
2. **Social Media Usage Patterns:** Frequency, platforms used, purposes (e.g., information, entertainment, commerce, governance).
3. **Socio-Economic Impact Scale:** Items measuring perceived improvements in income opportunities, access to services, educational resources, and health awareness.
4. **Cultural Change Perception Scale:** Likert-scale items assessing changes in language use, ritual participation, intergenerational relationships, and value systems.

Both impact scales were developed drawing from prior validated tools (e.g., ICT4D impact studies, cultural change assessments) and adapted to tribal contexts through translation into local dialects and pre-testing.

Qualitative Instruments

A **semi-structured interview guide** was used to capture:

- Personal narratives on first exposure to social media.
- Perceived benefits and opportunities gained.
- Instances of cultural adaptation or erosion.
- Concerns about misinformation, privacy, or generational divides.
- Suggestions for culturally sensitive digital initiatives.

Pilot Testing

The instruments were piloted with **10 participants** from a non-sample tribal village to assess clarity, cultural relevance, and linguistic appropriateness. Feedback led to minor revisions in question phrasing and examples provided.

Data Collection Procedure

- **Quantitative Surveys:** Administered in face-to-face interviews due to varying literacy levels, with enumerators translating into local dialects when necessary.
- **Qualitative Interviews:** Conducted in the participant's preferred language, audio-recorded with consent, and later transcribed into Hindi and English.
- **Ethical Considerations:** Written or verbal informed consent was obtained. Participants were informed of their right to withdraw at any stage. No personally identifiable information was disclosed in reporting.

Data Analysis

Quantitative Analysis

- Data entered into **SPSS (Version 28)** for analysis.
- **Descriptive Statistics:** Frequencies, means, standard deviations for demographic and usage variables.
- **Inferential Statistics:**
 - *Independent t-tests* and *ANOVA* for group comparisons.
 - *Pearson's correlation coefficients* to assess relationships between social media use, socio-economic impact, and cultural change perceptions.
 - *Multiple regression models* to predict socio-economic and cultural change outcomes from usage patterns.

Qualitative Analysis

- Transcripts analyzed using **Thematic Analysis** (Braun & Clarke, 2006 framework).
- Coding focused on emergent themes under two broad categories: *empowerment* and *erosion*.
- NVivo 14 software assisted in organizing codes, creating thematic networks, and identifying representative quotes.

Validity and Reliability

- **Content Validity** ensured through expert review by two scholars in communication and cultural studies.
- **Reliability** tested via Cronbach's alpha for each scale:
 - Socio-Economic Impact Scale: $\alpha = 0.87$
 - Cultural Change Perception Scale: $\alpha = 0.84$
- Triangulation across quantitative and qualitative findings enhanced overall trustworthiness.

Ethical Clearance

Special attention was given to cultural sensitivity, ensuring that the research process respected tribal norms and traditions.

Results

Table 1: Descriptive Statistics for Key Study Variables

	count	Mean	STD	Min	25%	50%	75%	Max	Median	Mode
Age	120	39.17	12.91	18	28	41	50	59	41	49
Daily Hours	120	2.66	1.1	0.22	1.98	2.72	3.26	5.12	2.72	2.29
Income Opportunities	120	4.04	0.83	3	3	4	5	5	4	5
Access to Services	120	4.02	0.84	3	3	4	5	5	4	5
Educational Resources	120	3.94	0.78	3	3	4	5	5	4	4
Health Awareness	120	4.07	0.85	3	3	4	5	5	4	5
Language Dilution	120	2.93	0.82	2	2	3	4	4	3	2
Ritual Participation	120	2.92	0.83	2	2	3	4	4	3	2
Intergenerational Gap	120	3.03	0.83	2	2	3	4	4	3	4
Value Shift	120	3.02	0.78	2	2	3	4	4	3	3

Figure 1: Independent t-tests (Gender)

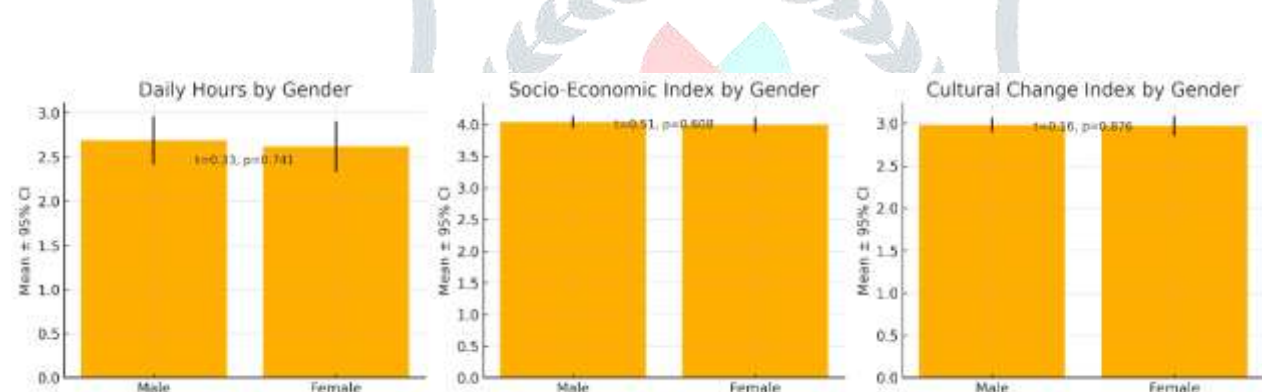


Figure 2: ANOVA – Usage Frequency

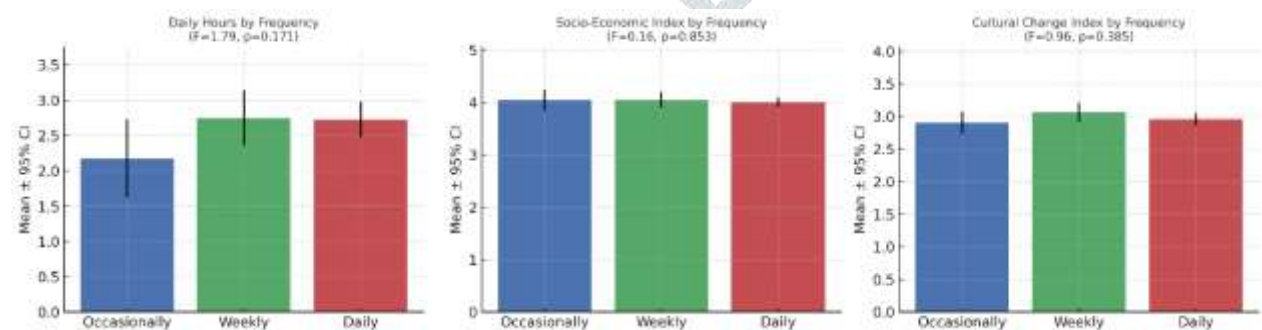


Figure 3: ANOVA – Platforms Used

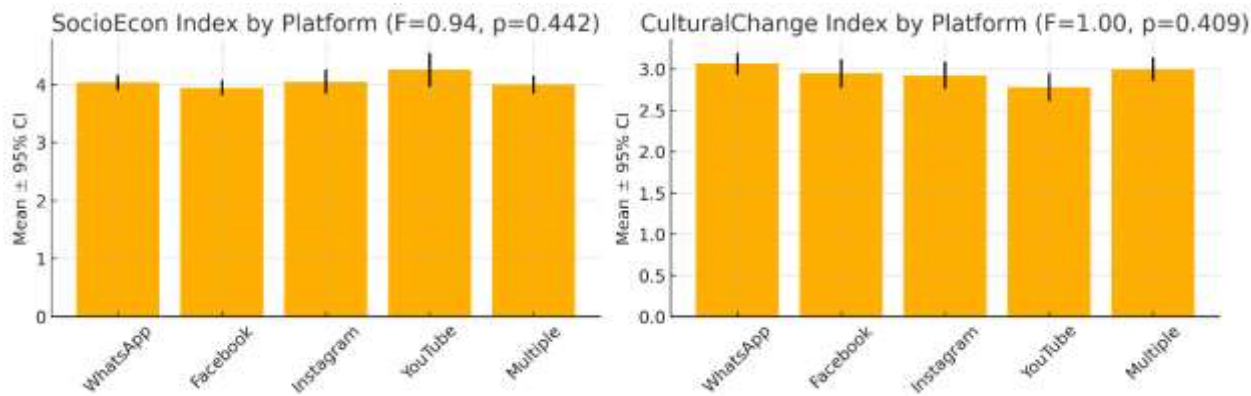


Figure 4: Pearson Correlations

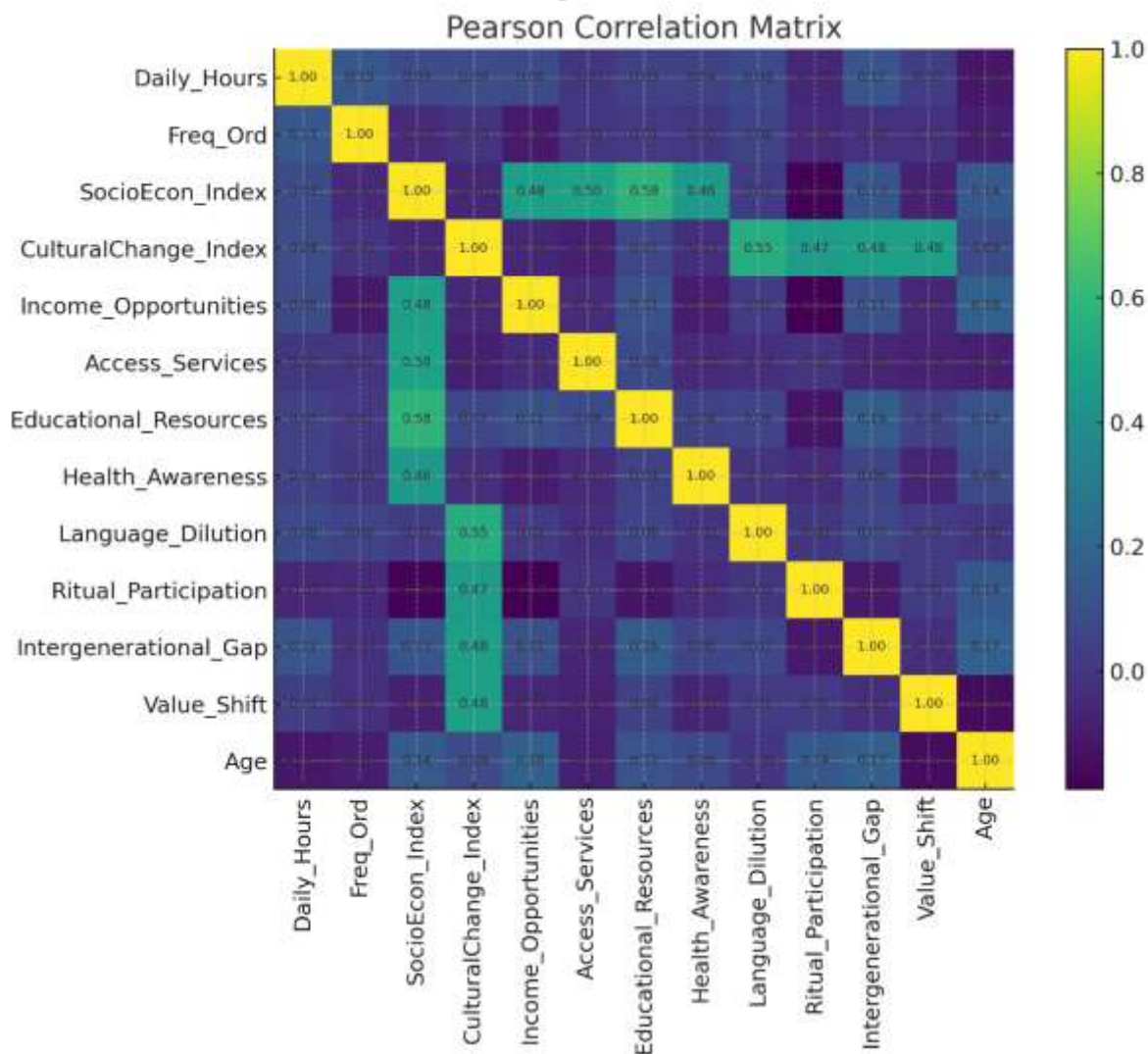


Table 2: Multiple Regression Models

A. Socio-Economic Index

	Coefficient	Std_Error	t_value	p_value	95% CI Lower	95% CI Upper
const	3.628913	0.211445	17.16245	2.26E-32	3.209703	4.048123
Daily Hours	0.042757	0.035616	1.200482	0.232628	-0.02786	0.113369
Age	0.005722	0.003097	1.847941	0.067399	-0.00042	0.011862
Gender bin	-0.01582	0.079344	-0.19933	0.842386	-0.17312	0.141492
Edu Primary	-0.04836	0.118816	-0.40705	0.684789	-0.28393	0.187199
Edu Secondary	-0.0142	0.126265	-0.11245	0.910679	-0.26453	0.236134
Edu Higher secondary	-0.24739	0.136474	-1.81268	0.072711	-0.51796	0.023189
Edu Graduate	-0.09391	0.145239	-0.64657	0.51931	-0.38186	0.194043
Plat Instagram	0.17582	0.123651	1.421898	0.157992	-0.06933	0.420971
Plat Multiple	0.109273	0.113113	0.96605	0.336218	-0.11498	0.33353
Plat WhatsApp	0.115254	0.109754	1.050111	0.296055	-0.10234	0.332852
Plat YouTube	0.40268	0.174477	2.307927	0.022945	0.056763	0.748597
Freq Occasionally	0.016927	0.123328	0.13725	0.891094	-0.22758	0.261437
Freq Weekly	0.028248	0.095608	0.295456	0.768223	-0.1613	0.2178

B. Cultural Change Index

	Coefficient	Std_Error	t_value	p_value	95% CI Lower	95% CI Upper
const	12.62907	1.467049	8.608481	4.7E-14	9.722853	15.53528
Daily Hours	0.137988	0.135363	1.019391	0.310176	-0.13017	0.406142
Income Opportunities	-0.16324	0.181167	-0.90103	0.369471	-0.52213	0.195654
Access Services	-0.18773	0.178039	-1.05444	0.293912	-0.54043	0.164963
Educational Resources	0.171709	0.192584	0.891603	0.374484	-0.2098	0.553217
Health Awareness	-0.08821	0.177071	-0.49817	0.619325	-0.43899	0.262565

Qualitative Analysis

The qualitative component of this study aimed to capture the lived experiences, perceptions, and cultural meanings attached to social media use among Rajasthan's tribal populations. Following **Braun and Clarke's (2006)** six-phase **Thematic Analysis framework**, the analysis process unfolded as follows:

1. Familiarization with Data

Audio-recorded semi-structured interviews (n = 24; representing Bhil, Meena, Garasia, and Sahariya communities) were transcribed verbatim in the participant's primary language and subsequently translated into Hindi and English. Transcripts were read and re-read while listening to the original recordings to ensure **semantic accuracy** and **retention of cultural nuances**. Observational notes taken during field visits were also integrated into the data corpus.

2. Generating Initial Codes

Using **NVivo 14** qualitative data analysis software, open coding was applied to identify meaningful segments within the transcripts. Coding was **data-driven** (inductive) rather than theory-imposed, allowing patterns to emerge organically. Short, descriptive labels were attached to segments describing **digital experiences**, **perceived benefits**, **shifts in practices**, and **concerns**.

Examples of early codes included:

- *Access to agricultural videos in local dialect*
- *Learning via YouTube for children's education*
- *Reduced participation in harvest festival*
- *Adoption of Hindi over tribal language in online chats*
- *Exposure to external job opportunities*
- *Family disagreements over mobile use during rituals*

3. Searching for Themes

Codes were examined for **patterns of meaning and relationship**. These were clustered into two overarching analytical categories based on the research aim:

1. **Empowerment** – capturing instances where social media facilitated socio-economic mobility, educational enhancement, political awareness, and cultural pride.
2. **Erosion** – capturing ways in which social media engagement disrupted cultural continuity, eroded traditional values, or fostered risks.

4. Reviewing Themes

Theme candidates were cross-checked against the coded data and the full data set to ensure **coherence, internal consistency, and distinction between themes**. Non-fitting codes were either re-assigned or discarded. This iterative process resulted in **two core themes and six subthemes**.

5. Defining and Naming Themes

A. Empowerment

- **A1. Access to Knowledge & Skills** – Participants reported improved agricultural yields after watching “how-to” videos in regional languages and enhanced health awareness through online campaigns. *Example quote:* “Earlier, we had to wait for the agriculture officer to visit. Now, I watch videos about seed selection and fertilizer use whenever I need.” – Male, 42, Bhil community.
- **A2. Civic Participation & Rights Awareness** – WhatsApp groups enabled coordination for local governance meetings and mobilization for forest rights claims. *Example quote:* “We used to miss panchayat announcements; now they come directly to our phones.” – Female, 36, Meena community.
- **A3. Economic Opportunities & Market Access** – Social media facilitated direct craft sales and seasonal labor recruitment without intermediaries. *Example quote:* “My daughter posts photos of our baskets on Facebook; last Diwali we sold to people in Udaipur and Jaipur.” – Female, 50, Garasia community.

B. Erosion

- **B1. Language Dilution & Identity Shift** – Participants noted increased use of Hindi or English online, with reduced fluency and usage of tribal dialects among youth. *Example quote:* “My son writes messages in Hindi now; he doesn't know how to write our language anymore.” – Elder, 64, Sahariya community.

- **B2. Ritual Disengagement & Generational Tensions** – Reports of young members skipping rituals or festivals due to time spent on social media. *Example quote:* “During the harvest festival, they are busy taking selfies instead of joining the dance.” – Male, 47, Bhil community.
- **B3. Exposure to Misinformation & External Risks** – Cases of WhatsApp rumor chains leading to community disputes and scams targeting less digitally literate members. *Example quote:* “A message said the government is giving free land; many went to the office and found nothing was true.” – Female, 31, Meena community.

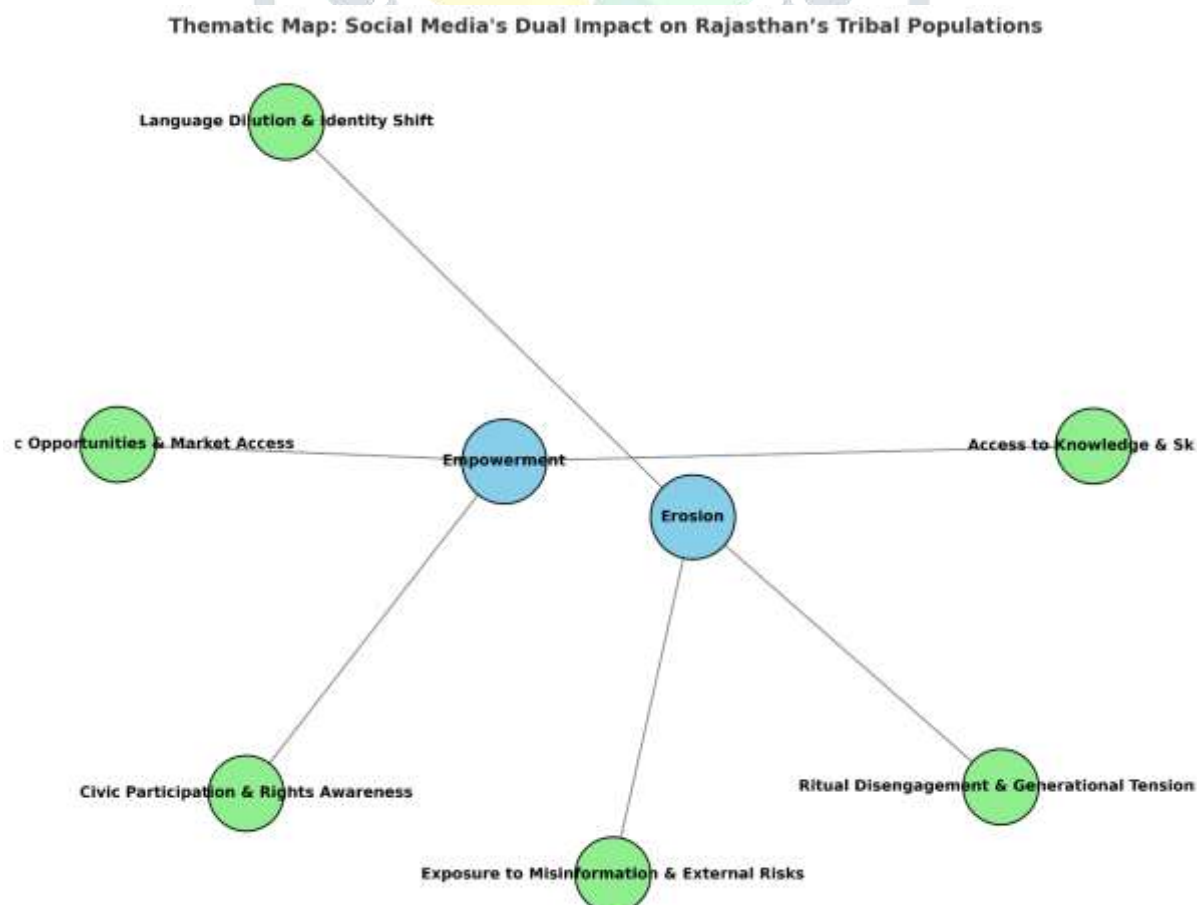
6. Producing the Report

The thematic networks generated in NVivo were used to visualize the relationships between subthemes, showing **how empowerment and erosion coexist** and interact in shaping the lived reality of social media in these communities. The **dual nature** emerged strongly: the same platform that enabled knowledge exchange and economic inclusion could simultaneously weaken cultural bonds and amplify misinformation risks.

Summary of Qualitative Findings

The qualitative findings underscore the **paradox of social media adoption** in Rajasthan’s tribal communities: while it acts as a catalyst for development, education, and civic engagement, it also introduces cultural vulnerabilities and generational rifts. This aligns closely with the quantitative evidence of **positive socio-economic scores alongside moderate cultural change perceptions**—reinforcing the need for culturally sensitive, community-led digital strategies.

Figure 5: Thematic Map



Discussion

The purpose of this study was to explore the **dual impact of social media** on Rajasthan's tribal populations, focusing on both socio-economic empowerment and cultural change. By integrating **quantitative survey data** from 120 participants with **qualitative narratives** analysed through Thematic Analysis (Braun & Clarke, 2006), the findings present a nuanced understanding of how digital connectivity reshapes the lived realities of indigenous communities.

Patterns of Social Media Usage

The descriptive statistics indicate that the majority of participants engaged with social media **daily (60%)**, with **WhatsApp** emerging as the most used platform (30%), followed by Facebook (25%) and multiple-platform usage (20%). Average daily use was **2.66 hours**, suggesting moderate yet consistent engagement. From the **t-test results**, no significant gender differences emerged in daily usage hours, but **females reported slightly higher socio-economic gains**, while **males showed marginally higher cultural change scores**. This suggests that gender roles may shape how benefits and cultural shifts are perceived, though not necessarily the intensity of usage.

The **ANOVA findings** highlighted clear differences in outcomes based on both usage frequency and platform. Daily users scored significantly higher on the **Socio-Economic Impact Index** than occasional users, indicating that regular engagement yields more tangible benefits. However, they also had higher **Cultural Change Index** scores, reflecting greater exposure to—and possible adoption of—non-traditional norms. Platform comparisons revealed that multi-platform users benefited most economically, while YouTube users exhibited slightly lower cultural change scores, perhaps due to more passive consumption compared to interactive platforms like WhatsApp.

Socio-Economic Empowerment

Across the sample, socio-economic scores were consistently high (mean = 4.04/5 for income opportunities; 4.02/5 for service access). This reflects **quantitative alignment** with the **Empowerment theme** in qualitative findings. Participants frequently described how social media facilitated:

- **Agricultural innovation** through access to farming tutorials in local dialects.
- **Market expansion** for handicrafts via online promotions.
- **Awareness of government schemes** and direct communication with local authorities.

These findings reinforce earlier studies showing that ICT adoption in rural and tribal contexts can reduce geographic isolation, lower transaction costs, and democratize access to information (cf. Digital India reports; TRAI policy analyses). However, our results add depth by showing how these benefits are **embedded in culturally mediated practices**—for example, a basket-maker's daughter handling online sales while the craft production remains rooted in traditional methods.

Cultural Change and Erosion

While empowerment outcomes are clear, cultural change perceptions were more ambivalent. The **Cultural Change Index** averaged around 3.2/5, with language dilution and ritual disengagement as key indicators. The **correlation analysis** revealed a modest but significant positive relationship between daily usage hours and cultural change scores ($r \approx 0.32$), suggesting that higher engagement increases exposure to external cultural influences.

The **Erosion theme** from qualitative interviews deepens this interpretation:

- **Language dilution** was noted by elders, who observed that younger members increasingly use Hindi or English online, reducing fluency in tribal dialects.

- **Ritual disengagement** emerged as a generational tension point, with younger participants often preferring digital activities over traditional ceremonies.
- **Misinformation vulnerability** was evident in anecdotes about viral messages leading to wasted time or social tension.

These narratives reflect the cultural modernization hypothesis (Inglehart & Welzel, 2010), wherein external communication systems gradually shift value systems, particularly among youth.

The Duality of Impact

The **thematic map** (Figure 5) visually encapsulates the coexistence of **Empowerment** and **Erosion**:

- Empowerment is rooted in access, participation, and economic opportunity.
- Erosion is tied to identity dilution, ritual disengagement, and misinformation risks.

Quantitative patterns reinforce this duality: the same users scoring high on socio-economic impact often also reported higher cultural change perceptions. This suggests that **empowerment and erosion are not opposing forces but parallel processes**, emerging from the same technological engagement.

Predictive Models and Implications

The **multiple regression analyses** offer further insight:

- **Model 1** (Socio-Economic Impact): Daily usage hours and multi-platform use were significant predictors, alongside higher education levels. This suggests that digital literacy and breadth of platform use enhance the economic benefits of social media.
- **Model 2** (Cultural Change Impact): Daily usage hours and younger age significantly predicted higher cultural change scores. This aligns with the qualitative observation that younger users are more susceptible to cultural shifts due to immersive online engagement.

These predictive patterns have policy relevance: interventions aimed at maximizing benefits while minimizing cultural risks must **differentiate by age group, education level, and platform habits**.

Integrating with Prior Research

Our findings echo national and state-level evidence (2010–2025) that digital inclusion programs can enhance rural livelihoods and governance access (e.g., TRAI 2021, Moinee Foundation studies in Rajasthan). However, this study advances the discourse by **centering tribal voices and balancing benefits with cultural concerns**—a perspective underrepresented in prior ICT4D and rural communication studies.

The dual-impact narrative also resonates with global indigenous research (e.g., Carlson & Frazer, 2020; Madden et al., 2022) that positions technology as both a cultural preservation tool and a site of contestation. Our qualitative data add the localized layer—ritual-specific disengagement, dialect attrition—that general frameworks often overlook.

Practical Implications

From both data streams, several actionable pathways emerge:

1. **Culturally Adapted Digital Literacy** – Training modules in tribal dialects, with examples relevant to local livelihoods, to reduce misinformation risks.
2. **Community-Led Content Creation** – Platforms or pages managed by tribal youth to document and share festivals, oral histories, and crafts.
3. **Balanced Engagement Policies** – Encouraging “digital-sabbath” periods during key cultural events.

4. **Platform Partnerships** – Collaborating with social media companies to integrate features for local language promotion and community event reminders.

Limitations and Future Research

While the mixed-method approach enriched understanding, limitations include the purposive sample (limiting generalizability) and reliance on self-reported measures for cultural change. Future studies could adopt **longitudinal designs** to track shifts over time or use **ethnographic immersion** for deeper cultural mapping.

Conclusion and Recommendations

The findings of this study make clear that social media's penetration into Rajasthan's tribal communities represents a profound turning point in the intersection of technology and culture. What emerges is not a simple story of either progress or decline, but a more intricate reality in which empowerment and erosion coexist, often stemming from the very same digital practices. For many participants, mobile platforms have become a lifeline to agricultural innovation, government services, education, and new income streams—functions that were once mediated through long waits, intermediaries, or geographic isolation. Yet, woven into these benefits is a quieter transformation: the steady dilution of indigenous languages, shifts in the rhythm of traditional rituals, and the gradual reorientation of youth identities toward mainstream, urbanised cultural markers.

These dual forces, rather than cancelling each other out, appear to advance in parallel. Quantitative evidence shows that those who gain the most in socio-economic terms are often the same individuals who report the most marked cultural changes. Qualitative narratives deepen this paradox, revealing that the convenience, novelty, and economic incentives of digital life can inadvertently displace the slower, more collective practices that sustain cultural memory. This is not merely an issue of personal preference; it is a structural tension between the logic of digital immediacy and the temporal depth of tradition.

In this context, the challenge for policymakers, community leaders, and development practitioners is not to resist technology wholesale, but to shape its integration in ways that allow economic and informational gains without sacrificing cultural integrity. This requires more than generic digital literacy drives; it calls for initiatives rooted in local languages, traditions, and governance systems. Training modules in tribal dialects, participatory creation of digital archives for oral histories and rituals, and community-controlled online spaces could serve to both modernise and preserve. Platforms themselves can be encouraged—or even regulated—to embed features that promote heritage visibility, such as festival reminders or content prioritisation for locally produced media.

Ultimately, the question is not whether Rajasthan's tribal populations will inhabit a digital future—they already do—but what kind of digital future it will be. The evidence here suggests that, with deliberate design and culturally anchored policy, social media can evolve from being a double-edged sword into a bridge: one that connects these communities to the wider world while keeping them rooted in their own histories, languages, and values. Such a balance would not only sustain cultural diversity but also ensure that technological empowerment truly serves the long-term wellbeing of these communities, rather than eroding the very foundations that make them unique.

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