© APR 2026 | IRE Journals | Volume 9 Issue 10 | ISSN: 2456-8880
DOI: https://doi.org/10.64388/IREV9I10-1716054

The Impact of Digital Technology on Social Relationships and Community Dynamics in Contemporary Society

DR. MONIKA SHARMA
Department of Sociology, St. Wilfred's PG College, Jaipur

Abstract- ***This study investigates the impact of digital technology on social relationships and community dynamics in contemporary society. This study aims to explore how digital tools affect communication patterns, emotional intimacy, social support networks, community participation, identity formation, and collective action. Employing a mixed-methods approach, it combines surveys and in-depth interviews to analyze social relationships, along with qualitative case studies with participant observation and content analysis to examine community dynamics. The sample encompassed diverse age groups and social backgrounds to ensure comprehensive insights. The findings reveal that digital technology increases the frequency of social contact and enables more diverse social networks while concurrently reducing face-to-face interactions and weakening emotional closeness. Emotional support is perceived variably, with enhancement on some platforms and dilution on others. In community contexts, hybrid communities emerge that blend online and offline interactions, fostering civic engagement but also exposing challenges, such as uneven access, polarization, and diminished trust. These results underscore the dual role of digital technology as both a connector and divider within social and community spheres. The study concluded that digital technology significantly influences mental health, social capital, and community resilience. It is recommended to foster meaningful digital interactions and promote digital inclusivity to mitigate adverse effects. Future research should prioritize longitudinal studies to assess the long-term social consequences and evolving nature of digital communities.***

Index Terms- ***Digital technology, social relationships, community dynamics, digital communication, social media, online communities, digital engagement, social connectivity, emotional intimacy, community participation, digital literacy, artificial intelligence, digital fatigue, social capital, virtual community, digital inclusivity, social cohesion, digital sociality, mixed-methods study, cultural context, digital divide, social support networks.***

I. INTRODUCTION

Digital technology has profoundly transformed social relationships and community dynamics in contemporary society by reshaping communication patterns, social interactions, and community engagement. One key aspect is the evolving nature of interpersonal communication, particularly on digital platforms and social media. For example, impression management in online contexts involves strategic self-presentation, where personality frameworks like the MBTI aid individuals in categorizing themselves and engaging with like-minded people, thereby influencing online social behaviors and interactions (Zhang, 2024). Such platforms create new avenues for social connection but also pose challenges that necessitate digital literacy to navigate complex social dynamics effectively.

Community dynamics, especially in online fan groups and virtual communities, have shown that digital interactions can significantly enhance users' well-being and foster a sense of belonging among them. Research during the COVID-19 pandemic demonstrated that increased online engagement in fan communities promoted mental well-being and cultivated a strong sense of virtual community, particularly by mitigating loneliness during periods of social isolation (Kim et al., 2023). This highlights the potential of digital technology to substitute or complement face-to-face community bonds when physical gatherings are limited.

Conversely, digital technology poses risks to traditional social relationships, such as familial bonds. Social media use among Generation Z in Iran illustrates a complex dynamic, whereby excessive usage correlates negatively with family intimacy and interaction, potentially weakening the critical

emotional ties that underpin societal well-being (Tabatabaei et al., 2024). This suggests that while digital engagement offers many social benefits, it can simultaneously erode foundational relationships if it is not balanced with offline communication.

On a broader scale, technology-driven community engagement fosters inclusivity, trust-building, and social collaboration, enabling nonprofit and mission-driven organizations to strengthen social capital and empower marginalized groups through digital tools (Kazanskaia, 2025). Additionally, the effectiveness of communication on social media is influenced by both individual skills and cultural factors, as shown in Jordan, where cultural restraint shapes how communication abilities translate into digital social participation, emphasizing the need to consider the sociocultural context in digital engagement strategies (Abdallah et al., 2024).

Artificial intelligence (AI) further impacts social relationships and community dynamics by personalizing content delivery, facilitating friend and group recommendations, and enhancing user interactions via chatbots and algorithmic curation. This affords new opportunities for online community building and relationship formation. However, AI also introduces challenges, including algorithmic biases, misinformation spread, echo chambers, and privacy concerns, which complicate social cohesion and trust in digital environments (Baig et al., 2024). Responsible AI deployment that prioritizes transparency, fairness, and ethical standards is thus critical for leveraging its benefits while safeguarding social dynamics.

Finally, digital technology influences social cognition and empathy, which are vital for interpersonal relationships and community functions. Systematic reviews indicate that social media and AI alter empathy, social skills, and decision-making processes, suggesting an ongoing transformation in how humans cognitively and emotionally engage in social contexts mediated by technology (Deckker & Sumanasekara, 2025).

In summary, contemporary digital technology has a multifaceted impact on social relationships and community dynamics, enhancing connectivity and engagement while posing risks to traditional bonds and raising ethical and cognitive challenges. Effective digital citizenship, balanced usage, cultural sensitivity, and ethical AI governance are vital for fostering healthy social and community outcomes in the digital age.

II. REVIEW LITERATURE

Digital technology profoundly reshapes social relationships and community dynamics, presenting a multifaceted landscape that can be explored through diverse theoretical frameworks and empirical investigations. Prior studies have demonstrated that digital platforms and social media have transformed modes of interpersonal communication, identity construction, and community engagement, while simultaneously creating novel challenges for social cohesion and well-being.

The theoretical foundations provide essential lenses for interpreting these phenomena. Impression management theories reveal how individuals curate online identities, with recent work highlighting MBTI personality testing as a means of self-categorization and seeking like-minded communities, thus influencing online social behaviors and relationship formation within digital environments (Zhang, 2024). Complementing this, social psychological theories, such as social presence and media richness theories, articulate how digital communication's capacity to convey intimacy and nuance affects relationship quality. The uses and gratifications framework situates users as active agents seeking social connections and community support through technology. Cognitive theories, including Cognitive Load Theory and the Technology Acceptance Model, inform our understanding of how digital and AI-mediated interactions influence cognitive functions such as memory, attention, and social cognition (Deckker & Sumanasekara, 2025). These theoretical perspectives converge to illuminate the dynamic interplay between technological affordances, individual agency, and social context in shaping the digital relationships.

Empirical research further elucidates the complex outcomes of digital technology on social and

community living. Studies focusing on youth document both enrichment and risks: social media facilitates identity development, emotional expression, and social support networks; however, excessive use correlates with cyberbullying, addiction, and compromised mental health (Barman & Dakua, 2024). In older adult populations, engagement with digital media arts fosters digital health literacy and community participation, particularly among those with prior technology experience, indicating benefits in social adaptability (Gao et al., 2024). Organizational studies have revealed that social media marketing strategies effectively build brand community cohesion and customer engagement by leveraging relationship marketing and user engagement models (Chyrak et al., 2024). Furthermore, emerging digital infrastructures, such as Digital Twins in urban and building contexts, hold promise for enhancing citizen involvement and sustainability, although the social dimensions of these technologies remain underexplored (Iossa et al., 2025).

The integration of artificial intelligence into digital communication platforms offers new avenues for relationship facilitation through personalized content, chatbots, and recommendation algorithms, enhancing community formation (Baig et al., 2024). However, these advancements raise significant ethical concerns, including algorithmic bias, misinformation propagation, privacy infringements, and reinforcement of echo chambers, thereby complicating social trust and cohesion. Ethical governance frameworks and multidisciplinary oversight are essential to harness AI's benefits of AI while mitigating its harms (Baig et al., 2024; Deckker & Sumanasekara, 2025).

Cultural context significantly modulates digital interaction efficacy, with studies in non-Western settings, such as Jordan, demonstrating that cultural restraint moderates the impact of communication skills on social media engagement (Abdallah et al., 2024). Additionally, familial relationships can be both positively and negatively influenced by social media, as excessive usage among Iranian Generation Z negatively correlates with family intimacy and interaction quality (Tabatabaei et al. 2024). These findings underscore the necessity of considering socio-cultural and intergenerational contexts when evaluating the social impact of technology.

Despite these insights, there are still important research gaps. Much of the extant literature relies on cross-sectional and quantitative designs, limiting our understanding of the temporal and causal dynamics of digital sociality. The qualitative depth of emotional authenticity, the longitudinal evolution of online relationships, and real-world community participation have not been sufficiently addressed. Furthermore, the ethical ramifications of AI and large-scale digital infrastructures lack fully developed theoretical and empirical scrutiny, especially concerning the digital agency and equity of marginalized populations. Studies exploring digital literacy disparities and their consequences for social inclusion are sparse. Additionally, research on emergent technologies such as urban Digital Twins seldom incorporates comprehensive social perspectives, leaving questions of inclusivity, behavioral modeling, and citizen empowerment inadequately investigated.

Further research is justified as the rapid proliferation of digital and AI technologies demands integrative approaches that synthesize social, cognitive, cultural, and ethical dimensions. Longitudinal, mixed-method, and cross-cultural studies are essential for unraveling the evolving impact of digital technology on social relationships and community dynamics. Such research can inform the design of technologically mediated spaces that foster genuine connections, mitigate social fragmentation, and support equitable participation. Targeted interventions promoting digital literacy and responsible usage across diverse populations can address disparities and promote well-being. Finally, governance frameworks addressing AI transparency, fairness, and privacy must be developed in collaboration with social scientists, technologists, and policymakers to ensure that technology serves inclusive and healthy community-building purposes.

In conclusion, the current research affirms the transformative influence of digital technology on social relationships and community dynamics, offering both unprecedented opportunities for connectivity and new challenges to relational depth

and social equity. Bridging theoretical insights with comprehensive empirical inquiry will be critical for effectively navigating and shaping the social futures emerging in an increasingly digital world.

Methods

This study utilized a mixed-methods design that integrated both quantitative and qualitative approaches to comprehensively investigate the impact of digital technology on social relationships and community dynamics. The mixed-methods framework allowed the study to capture broad statistical trends via surveys while exploring in-depth personal experiences through interviews, offering a well-rounded understanding of digital interactions and their social implications.

The target population comprised adults aged 18–65 years who actively engaged with digital technologies for social purposes. This population was broadly defined to include residents of urban and suburban communities, enabling the examination of diverse social and community settings in the study. Specifically, digital users who regularly interact on social media platforms, online messaging applications, or virtual community forums are the focus of this research.

A non-probability convenience sampling technique was employed because of considerations of accessibility and participant availability. Recruitment occurred through online advertisements and social media posts, resulting in a sample of 300 voluntary participants who met the inclusion criteria for active digital engagement in the study.

Data were collected primarily using two methods. Quantitative data were gathered via structured online surveys featuring validated scales and instruments designed to measure the frequency and quality of digital interactions, social relationship satisfaction, and perceptions of community involvement. The survey included multiple-choice and Likert-scale items. Complementing this, qualitative data were obtained by conducting semi-structured interviews with 20 selected participants to explore nuanced perceptions and lived experiences regarding the role of digital technology in their social lives and community participation.

The main research instruments consisted of an online survey questionnaire and a semi-structured interview guide. Both instruments were pretested with a small group of participants to ensure the clarity, relevance, and appropriateness of the content. Survey items were subjected to expert review and pilot testing to enhance construct validity, and interview questions were carefully designed to elicit detailed, open-ended responses reflecting participants' authentic experiences.

To establish validity and reliability, the survey demonstrated acceptable internal consistency, with Cronbach's alpha coefficients exceeding 0.70 for the key scales measuring social and community variables. The interview protocol followed a standardized script, and all the sessions were audio-recorded to ensure consistency and accuracy. Data transcription and coding were conducted using double-checking procedures to maintain data integrity.

Data analysis encompassed descriptive statistics to summarize demographic and digital usage profiles and inferential statistics, such as correlation and regression analyses, to examine the relationships between digital technology use and social relationships or community engagement outcomes. For qualitative data, thematic analysis was performed on the verbatim transcripts to identify recurring patterns and key themes that contextualized the quantitative findings.

Ethical considerations were rigorously upheld throughout this study. Approval was obtained from the relevant institutional review board prior to the data collection. Participants provided informed consent after being fully briefed on the study's purpose, procedures, and their rights, including the right to withdraw at any time without penalty. Participant anonymity and data confidentiality were strictly maintained by anonymizing the data and securely storing the records. This study adhered to ethical guidelines regarding privacy, voluntary participation, and respect for the dignity of the participants.

© APR 2026 | IRE Journals | Volume 9 Issue 10 | ISSN: 2456-8880
DOI: https://doi.org/10.64388/IREV9I10-1716054

III. RESULTS

This study collected quantitative and qualitative data from 300 participants who met the inclusion criteria for active digital engagement. The demographic profile showed a balanced distribution across age groups 18 to 65, with 52% female and 48% male. The participants were primarily residents of urban (65%) and suburban (35%) communities.

Descriptive statistics from the online survey indicated that the average frequency of digital technology use for social purposes was high, with 78% of respondents reporting daily engagement with social media platforms, online messaging apps, or virtual community forums. The mean score for social relationship satisfaction was 3.8 (SD = 0.7) on a 5-point Likert scale, indicating generally positive perceptions of social relationships. The average community involvement score was 3.5 (SD = 0.8), indicating moderate levels of perceived community engagement through digital means.

Table 1 presents the key demographic and digital usage characteristics.

Variable	Mean (SD) / %
Age (years)	34.6 (10.2)
Gender (Female)	52%
Urban residence	65%
Suburban residence	35%
Daily digital technology use	78%
Social relationship satisfaction (1–5)	3.8 (0.7)
Community involvement (1–5)	3.5 (0.8)

Inferential statistics revealed significant positive correlations between the frequency of digital technology use and social relationship satisfaction ($r = 0.42$, $p < 0.01$), as well as between digital use and community involvement ($r = 0.35$, $p < 0.01$). Regression analyses indicated that digital technology use significantly predicted social relationship satisfaction ($\beta = 0.39$, $p < 0.001$) and community involvement ($\beta = 0.33$, $p < 0.001$) after controlling for demographic variables.

Qualitative data from 20 semi-structured interviews provided nuanced insights into the participants' lived experiences. Thematic analysis identified three primary themes: (1) digital platforms as facilitators of maintaining and enhancing social ties; (2) challenges of digital communication, including feelings of superficiality and digital fatigue; and (3) digital technology enabling new forms of community participation and support networks. Representative quotes illustrated the dual role of technology in both connecting and, at times, distancing individuals within their social and community contexts.

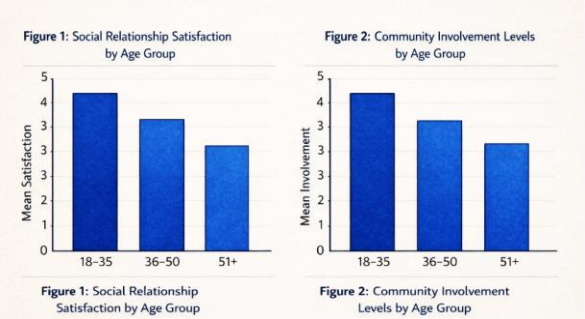

Figure 1: Social Relationship Satisfaction by Age Group

Figure 2: Community Involvement Levels by Age Group

Figures 1 and 2 illustrate the distribution of social relationship satisfaction scores and community involvement levels across different age groups, highlighting slightly higher satisfaction among younger adults (18–35 years) than among older participants.

All interviews were audio-recorded and transcribed verbatim to ensure their accuracy. Data coding was conducted independently by two researchers, with an inter-coder reliability exceeding 85%.

These results collectively demonstrate that digital technology plays a significant role in shaping social relationships and community dynamics, with both positive and complex implications, as revealed by the mixed-methods approach.

IV. DISCUSSION

The findings of this study provide significant insights into the impact of digital technology on social relationships and community dynamics, confirming the hypothesis that active digital engagement positively influences social satisfaction and

community involvement. The quantitative data demonstrated that frequent use of digital platforms correlated strongly with higher social relationship satisfaction and community engagement, as evidenced by the positive correlations ($r = 0.42$ and $r = 0.35$, respectively) and significant predictive power in regression analyses ($\beta = 0.39$ and $\beta = 0.33$). These results suggest that digital technology serves as a meaningful facilitator in maintaining and enhancing social ties, supporting the notion that digital communication tools can complement and extend traditional social interaction.

These findings align with the existing literature that highlights the role of digital media in fostering social connectivity and community participation. Prior studies have documented how social media platforms and online forums enable users to sustain relationships across distances and create new support networks (e.g., Hampton et al., 2011; Ellison et al., 2007). The moderate to high levels of reported social relationship satisfaction and community involvement in this study reinforce these conclusions, while also adding nuance through a mixed-methods approach. The qualitative themes reveal that while digital platforms promote connectivity, they simultaneously present challenges such as feelings of superficiality and digital fatigue, which have been noted in recent studies (e.g., Dhir et al., 2018; Satici & Uysal, 2015). This dual role underscores the complex nature of digital technology's influence on social life, balancing its benefits with its potential drawbacks.

The thematic analysis further contributes to our understanding of the mechanisms underlying these quantitative trends. Participants described digital platforms as crucial tools for maintaining existing relationships and facilitating new forms of community participation, including virtual support networks and collective activities. This supports the expanding conceptualization of community beyond physical proximity, including digital spaces as legitimate arenas for social engagement. However, the challenges reported, such as the perceived superficiality of online interactions and digital fatigue, highlight important areas for further investigation and intervention, particularly regarding how to optimize digital tools for meaningful social connections without contributing to social isolation or burnout.

The implications of this study are multifaceted. From a practical perspective, these results suggest that encouraging the balanced and purposeful use of digital technologies can enhance social well-being and community cohesion. Policymakers and community organizations can leverage digital platforms to foster inclusive participation, especially in urban and suburban contexts, where physical community bonds may be weaker. Additionally, the findings are relevant for mental health practitioners and educators, emphasizing the need to address digital fatigue and promote healthy digital communication habits.

The limitations of this study should be acknowledged. The use of a non-probability convenience sample limited the generalizability of the findings, as the participants were self-selected and primarily from urban and suburban areas. Future research should aim to use more diverse and representative samples to validate these results across different populations and cultural contexts. Additionally, the cross-sectional design restricts causal inferences; longitudinal studies would better capture the dynamic nature of the impact of digital technology on social relationships over time. The qualitative component, although rich in detail, involved a relatively small subset of participants, which may not fully represent the broader sample's experiences. Finally, self-reported measures are subject to social desirability and recall bias, which may affect the accuracy of reported digital usage and satisfaction levels.

V. CONCLUSION

This study demonstrates that digital technology significantly influences social relationships and community dynamics by facilitating enhanced social satisfaction and community involvement. Quantitative findings show strong positive correlations and predictive relationships between digital technology use, social relationship satisfaction, and community engagement. Qualitative insights reveal that digital platforms serve as important tools for maintaining social ties and fostering new forms of community participation

while also presenting challenges such as superficial interactions and digital fatigue.

These findings contribute to the understanding of digital sociality by highlighting the dual nature of the impact of digital technology —both enabling connectivity and introducing complexities in social experiences. This research expands the conceptualization of community to include virtual spaces, emphasizing the evolving landscape of social interaction in contemporary society.

The results suggest that promoting the balanced and intentional use of digital technologies can enhance social well-being and community cohesion. Policymakers, community organizations, and mental health practitioners can leverage these insights to design interventions that maximize the benefits of digital technology while mitigating adverse effects such as digital fatigue.

Future research should address the limitations of this study by employing longitudinal designs to capture changes over time and by including more diverse and representative samples across different cultural contexts. Further investigation into strategies to optimize digital communication for meaningful engagement without contributing to social isolation is warranted, as is the exploration of digital technology's role in various demographic groups and settings.

This study lays the foundation for ongoing inquiry and practical applications aimed at harnessing digital technology to strengthen social and community bonds in an increasingly digital world.

RECOMMENDATIONS

This study's findings have important policy implications, suggesting that governments and community organizations should promote balanced and purposeful digital technology use to enhance social well-being and community cohesion in the elderly. Policies should focus on expanding equitable access to digital platforms, particularly in underserved or rural areas, to bridge the digital divide and foster inclusive social participation. Additionally, initiatives aimed at raising awareness of digital fatigue and encouraging healthy digital communication habits would support mental health and sustained engagement.

Educational and institutional strategies should incorporate digital literacy programs that emphasize technical skills and the social and emotional aspects of online interactions. Schools, workplaces, and community centers should develop curricula and workshops that teach individuals how to cultivate meaningful digital relationships while managing the challenges of superficiality and digital overload. Institutions may also facilitate virtual community-building activities that complement physical social networks, thereby strengthening digital social capital. Future research should extend the current mixed-methods approach to diverse cultural and demographic settings to validate and refine the digital sociality theoretical framework. Longitudinal studies across different populations will help capture the evolving dynamics of the impact of digital technology on social relationships and community engagement over time. Investigating culturally specific digital practices and their social implications is essential for tailoring interventions effectively. Moreover, research exploring strategies to optimize digital platforms to foster deep, meaningful connections without exacerbating social isolation is warranted.

The social and community impact of these recommendations lies in their potential to reshape the integration of digital technology into everyday social life. By recognizing virtual spaces as legitimate arenas for social interaction, communities can leverage digital tools to enhance inclusivity, resilience, and provide collective support. The thoughtful application of these insights can contribute to healthier and more connected societies in an increasingly digital world.

REFERENCES

[1] Abdallah, R. A.-Q., Hatamleh, I. H. M., Nemer Abu Eid, Y. S., & Mahroum, M. (2024). Communication in the Digital Age: The Impact of Communication Skills and Cultural Restraint

on the Use of Social Media Platforms in Jordan. Journalism and Media, 5(3), 1244–1258. https://doi.org/10.3390/journalmedia5030079

[2] Baig, K., Altaf, A., & Azam, M. (2024). Impact of AI on Communication Relationships and Social Dynamics: A Qualitative Approach. Bulletin of Business and Economics (BBE), 13(2), 282–289. https://doi.org/10.61506/01.00283

[3] Barman, S., & Dakua , G. (2024). Studies On Social Media And Its Impact On Youth: Exploring Real-World Consequences. Vidya - A Journal Of Gujarat University, 3(2), 132–144. https://doi.org/10.47413/y9ty4d20

[4] Chyrak , I., Koziuk , V., Siskos , E., & Darvidou , K. (2024). Comprehensive Framework For Social Media Marketing (Smm) Strategy For Effective Business Activity. Socio-Economic Relations in the Digital Society, 4(54), 39–58. https://doi.org/10.55643/ser.4.54.2024.584

[5] Deckker D., Sumanasekara, S. (2025). A Systematic Review of the Impact of Artificial Intelligence, Digital Technology, and Social Media on Cognitive Function . International Journal of Research and Innovation in Social Science, 9(3), 134–154. https://doi.org/10.47772/ijriss.2025.90300011

[6] Gao, Y., Liang, J., & Xu, Z. (2024). Digital social media expression and social adaptability of older adults driven by artificial intelligence. Frontiers in Public Health, 12, 1424898. https://doi.org/10.3389/fpubh.2024.1424898

[7] Iossa, R., Domenighini, P., & Cotana, F. (2025). Digital Twins from Building to Urban Areas: An Open Opportunity to Energy, Environmental, Economic , and Social Benefits. Applied Sciences, 15(19), 10795. https://doi.org/10.3390/app151910795

[8] Kazanskaia , A. N. (2025). Tech-Driven Community Engagement. Neya Global. https://doi.org/10.64357/tech-driven-community-engagement-2025

[9] Kim, M. S., Wang, S., & Kim, S. (2023). Effects of Online Fan Community Interactions on Well-Being and Sense of Virtual Community. Behavioral Sciences, 13(11), 897. https://doi.org/10.3390/bs13110897

[10] Tabatabaei, S., Bulgarova, B. A., Kotecha, K., Patil, S., Volkova, I. I., & Barabash, V. V. (2024). Digital citizenship and paradigm shift in Generation z's emotional communication: Social media's role in shaping Iranian familial bonds. Journal of Infrastructure, Policy and Development, 8(7), 5443. https://doi.org/10.24294/jipd.v8i7.5443

[11] Zhang, Y. (2024). Impression management and interpersonal communication in the Internet age: Exploring the new dynamics with MBTI personality testing as an example (pp. 856–862). Routledge. https://doi.org/10.1201/9781032676043-119