



Technology and Socio-Cultural Transformation: A Qualitative Study of Digital Change in Gampong Lapang

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ABSTRACT

Rapid technological change is reshaping communication, education, economic activity, and cultural life in rural Indonesian communities. This study examines the impact of technology on socio-cultural change in the community of Gampong Lapang, Johan Pahlawan District, West Aceh Regency. A qualitative research design with a descriptive approach was used. Data were collected through observation, interviews with village officials, community leaders, young people, and active technology users, and documentation; they were analyzed through data reduction, data display, and conclusion drawing, with source triangulation to ensure validity. The findings show that technology has a dual impact. Smartphones and digital platforms such as WhatsApp, Facebook, and TikTok have eased access to information, accelerated communication, supported learning, and opened economic opportunities through online selling and digital transactions. However, excessive social media use has reduced face-to-face interaction, lowered youth participation in community activities, and exposed young people to external cultural influences that gradually marginalize local values. Technology thus acts as a catalyst of socio-cultural change whose outcomes depend on how it is used. Digital literacy and guidance from families, community leaders, and village institutions are needed so that technological progress does not weaken the community's social and cultural values.

ABSTRAK

Perkembangan teknologi yang pesat mengubah komunikasi, pendidikan, aktivitas ekonomi, dan kehidupan budaya masyarakat pedesaan di Indonesia. Penelitian ini bertujuan menganalisis dampak teknologi terhadap perubahan sosial budaya masyarakat Gampong Lapang, Kecamatan Johan Pahlawan, Kabupaten Aceh Barat. Penelitian menggunakan metode kualitatif dengan pendekatan deskriptif. Data dikumpulkan melalui observasi, wawancara dengan aparatur gampong, tokoh masyarakat, pemuda, dan pengguna teknologi aktif, serta dokumentasi; data dianalisis melalui reduksi data, penyajian data, dan penarikan kesimpulan, dengan triangulasi sumber untuk menjaga keabsahan. Hasil penelitian menunjukkan bahwa teknologi berdampak ganda. Telepon pintar dan platform digital seperti WhatsApp, Facebook, dan TikTok memudahkan akses informasi, mempercepat komunikasi, mendukung pembelajaran, dan membuka peluang ekonomi melalui jual beli daring dan transaksi digital. Namun, penggunaan media sosial yang berlebihan mengurangi interaksi tatap muka, menurunkan partisipasi pemuda dalam kegiatan masyarakat, dan membuka pengaruh budaya luar yang secara perlahan meminggirkan nilai-nilai lokal. Dengan demikian, teknologi menjadi katalis perubahan sosial budaya yang dampaknya bergantung pada cara penggunaannya. Literasi digital serta bimbingan keluarga, tokoh masyarakat, dan lembaga gampong diperlukan agar kemajuan teknologi tidak melemahkan nilai sosial budaya masyarakat.



1. INTRODUCTION

Digital technologies have become a defining feature of contemporary social life. Smartphones, the internet, and social media are no longer merely tools of communication; they now structure how people obtain information, learn, work, trade, and relate to one another, in what Castells (2010) describes as a network society organized around flows of information. Indonesia illustrates this transformation vividly: the national internet survey reported 229.43 million internet users in 2025, equivalent to a penetration rate of 80.66%, with penetration in Sumatra reaching 77.12% (Asosiasi Penyelenggara Jasa Internet Indonesia [APJII], 2025). As connectivity reaches provincial and village settings, technology is no longer an urban privilege but an everyday reality that can be expected to alter the social and cultural fabric of local communities.

From a sociological perspective, technology is a major driver of social change. Soemardjan (1962) and Soekanto (2013) define social change as transformations in the social institutions of a society that affect its social system, including values, attitudes, and patterns of behavior among groups. Such change may originate from internal as well as external factors, and scientific and technological development is among the most influential of them (Setiadi et al., 2012; Soekanto, 2013). Ogburn's (1922) theory of cultural lag adds that material culture, of which technology is the clearest example, tends to change faster than the non-material culture of norms, customs, and values, so that societies often struggle to adapt their social arrangements to new technologies. Rogers (2003) further explains that innovations spread through communication channels within a social system, and that the speed and direction of adoption depend on how people perceive and respond to them.

Technological change is also inseparable from cultural change. Koentjaraningrat (2009) defines culture as the entire system of ideas, actions, and works of humankind in the life of a society that are made the individual's own through learning. Because culture is learned, it can be modified when people encounter and adopt new cultural elements from outside their own environment. Digital media accelerate such encounters. Appadurai (1996) shows how global flows of media, images, and ideas travel across national boundaries and supply resources for imagining new ways of life, while Tomlinson (1999) argues that globalization increasingly connects local experience to distant cultural forms. For young people in particular, the internet and social media become powerful channels through which foreign lifestyles, fashions, and values enter everyday life.

Previous studies suggest that the consequences of digital technology are ambivalent. On the one hand, online platforms can strengthen relationships and generate social capital (Ellison et al., 2007; Baym, 2015), widen access to education, and open economic opportunities. On the other hand, early evidence from Kraut et al. (1998) linked heavy internet use to reduced communication within households and to greater loneliness, although a later follow-up found that these negative effects dissipated and that outcomes depended on users' existing social resources (Kraut et al., 2002). Turkle (2011) similarly warns that technologically mediated connection can displace face-to-face conversation. In the Indonesian context, Bungin (2015) discusses communication technology as a force that reshapes social relations, and Cahyono (2016) examines the influence of social media on social change in Indonesian society. At the local level, Sabitah et al. (2025) study how modernization is eroding the ecological meanings

embedded in gampong names in West Aceh, indicating that cultural change in Acehese village communities is already visible.

Despite this body of work, several gaps remain. First, much of the literature on technology and social relations originates from urban or Western contexts and pays limited attention to village communities in Aceh, where communal norms remain strong. Second, studies tend to examine either the benefits or the risks of technology, rather than treating both within a single account of everyday community life. Third, research on cultural change seldom captures how residents themselves, including village officials, community leaders, young people, and ordinary technology users, interpret the changes they experience.

Gampong Lapang, in Johan Pahlawan District, West Aceh Regency, provides a relevant setting for addressing these gaps. Residents there use smartphones, social media, and digital communication extensively for education, work, and information seeking. At the same time, patterns of interaction have begun to change: some residents are more active on social media than in person, and uncontrolled technology use is perceived to influence young people's behavior, foster dependence on mobile phones, and weaken local cultural values. This study therefore aims to describe and interpret the impact of technology on the socio-cultural life of the community of Gampong Lapang and to provide a basis for using technology wisely without eliminating existing socio-cultural values. It contributes an empirical account from a village community in West Aceh that connects the benefits of technology with its social and cultural costs, interpreted through theories of social change, cultural lag, and cultural globalization.

Accordingly, this study addresses the following research questions:

1. How is technology used in the everyday life of the community of Gampong Lapang?
2. What positive and negative socio-cultural impacts of technology are experienced and perceived by the community?
3. How do these impacts relate to the maintenance of local cultural values, especially among the younger generation?

2. METHOD

Research Design

This study employed a qualitative research method with a descriptive approach. Qualitative research aims to understand comprehensively the phenomena experienced by research subjects through descriptions in words and language within a specific, natural context, and it emphasizes meaning, social processes, and the realities that occur in society (Moleong, 2017; Creswell & Poth, 2018). This design was chosen because the study seeks to understand and describe in depth how technology affects socio-cultural change in the community, and the descriptive approach allows the researchers to explain the community's social conditions on the basis of facts found in the field (Patton, 2015).

Research Setting and Informants

The research was conducted in Gampong Lapang, Johan Pahlawan District, West Aceh Regency. The location was selected because residents experience technological advancement in daily life, particularly through social media, digital communication, and internet access, and because the community has also undergone socio-cultural changes influenced by modern technology. The informants comprised:

- village officials;
- community leaders;
- young people; and
- community members who actively use technology in their daily lives.

These informants were expected to provide complementary perspectives on how technology is used and how it has altered social and cultural life in the village.

Data Sources and Data Collection

The data consisted of primary and secondary sources. Primary data were obtained directly through observation and interviews with informants in Gampong Lapang. Secondary data were drawn from books, scientific journals, articles, and other documents related to the impact of technology and socio-cultural change in society. Data were collected through three techniques. Observation involved directly observing the social conditions of the community and the use of technology in everyday life. Interviews were conducted with several informants to obtain in-depth information on the impact of technology on socio-cultural change. Documentation, in the form of photographs, notes, and documents related to the research, was used to support the field data. Data collection is the most strategic step in research because its primary objective is to obtain data, and appropriate techniques therefore help ensure that the data match the research objectives (Arikunto, 2013; Sugiyono, 2019).

Data Analysis

The data were analyzed through three interactive stages: data reduction, data display, and conclusion drawing (Miles et al., 2014). Data reduction was carried out by selecting and simplifying the data obtained in the field. Data were then displayed as descriptive narratives to facilitate understanding. Finally, conclusions were drawn from the analyzed data to understand the impact of technology on socio-cultural change in the community of Gampong Lapang.

Data Validity

To ensure data validity, the study applied source triangulation. Interview results from several informants were compared with one another and checked against the observations and documentation obtained in the field (Lincoln & Guba, 1985; Patton, 2015). This procedure aims to make the data more valid and reliable and to reduce dependence on any single account.

3. RESULT AND DISCUSSION

Technology has become an integral part of daily life in Gampong Lapang and has grown markedly in recent years. Smartphones, social media, the internet, and various digital applications are used by nearly all segments of society, from teenagers to adults, as means of communication and information seeking. Observations and interviews show that residents communicate through WhatsApp, use social media such as Facebook and TikTok, take part in online learning, and engage in digital buying and selling. Residents generally regard technology as providing convenience and helping them carry out activities more quickly and efficiently. Table 1 summarizes the main domains of technology use and the socio-cultural impacts identified in the field.

Table 1. Technology Use and Socio-Cultural Impacts

Domain	Technology use observed	Socio-cultural impact
Communication	WhatsApp and other digital applications; social media such as Facebook and TikTok	Faster communication unconstrained by distance; growing preference for phone-mediated over face-to-face contact
Information	Internet and social media alongside, and increasingly instead of, television, radio, and face-to-face exchange	Easier and quicker access to information; broader knowledge of events beyond the village
Education	Internet as a supplementary resource for course materials and assignments; online learning	More accessible and effective learning
Economy	Social media for product promotion and online selling; digital financial services	Wider marketing reach, additional income, and easier transactions
Social life and youth participation	Social media and online games among teenagers	Reduced direct interaction; lower social awareness and community participation
Culture and lifestyle	Exposure to foreign cultural content through the internet and social media	Changes in dress, communication patterns, and habits; local cultural values less popular

Access to Information and Communication

One of the most visible positive impacts is easier access to information. Previously, people received information mainly through television, radio, or face-to-face communication; today, information can be obtained readily through the internet and social media. Technology has also helped residents broaden their horizons and knowledge about events occurring outside their immediate environment. In communication, applications such as WhatsApp enable residents to stay in contact without the constraints of distance and time.

Education and Economic Activities

In education, technology has had a considerable effect on the learning process. Students in Gampong Lapang use the internet as a supplementary learning resource to look up course materials and complete academic assignments, and residents consider that this makes learning easier and more effective.

Technology also has a positive impact on the local economy. Some residents have begun to use social media to promote and sell products online, which helps them increase their income and expand their marketing reach. Digital services also make financial transactions easier.

Weakening Face-to-Face Interaction

Alongside these benefits, interviews revealed that some residents believe excessive use of social media has reduced direct social interaction. People communicate more frequently

through mobile phones than in person, including for social activities, and residents perceive that social relationships may become less close than before.

Youth Behavior and Community Participation

Continuous technology use also affects the behavior of the younger generation. Some teenagers spend more time on social media or online games than on social activities in their community, which residents associate with lower social awareness and reduced participation in community activities. Changes in lifestyle are also evident in the way young people dress, communicate, and go about their daily habits, which increasingly follow foreign cultural models.

Foreign Cultural Influence and the Erosion of Local Values

Foreign culture entering through social media and the internet is gradually shaping the mindset and behavior of society, especially the younger generation, who tend to follow modern trends and lifestyles that originate outside the region and abroad. As a result, some local cultural values are beginning to decline and are becoming less popular among the public.

Discussion

The findings confirm that technology is a significant factor in socio-cultural change in Gampong Lapang. Technological advancement alters patterns of social interaction, lifestyles, ways of thinking, and everyday behavior, which is consistent with the view that social change can arise from changes in the elements of societal life, including advances in science and technology (Soekanto, 2013; Soemardjan, 1962). The rapid uptake of smartphones and social media in the village also fits Rogers' (2003) account of innovation adoption, in which new technologies spread through communication networks once people perceive their advantages, here in the form of convenience, speed, and efficiency. In Castells' (2010) terms, residents of Gampong Lapang have become connected to wider information networks that were previously out of reach.

The positive impacts observed in communication, information, education, and the economy reflect what Giddens (1990) identifies as a defining feature of modernity: the separation of social relations from the constraints of place, so that interaction and knowledge are stretched across time and space. Residents who use WhatsApp to keep in touch, students who use the internet as a learning resource, and small traders who promote products online all benefit from this stretching of social relations. The findings also resonate with evidence that online platforms can build and maintain social capital (Ellison et al., 2007; Baym, 2015) and with Bungin's (2015) argument that communication technology reshapes how society organizes interaction and access to information. In economic terms, marketing through social media allows residents to reach buyers without operating from a traditional market, thereby increasing economic activity. These benefits nevertheless depend on connectivity: national survey data indicate that roughly one in five Indonesians remained offline in 2025 and that telecommunication infrastructure is unevenly distributed (APJII, 2025), so the opportunities described here should not be assumed to be equally available everywhere.

The negative impacts identified in this study concern the quality of social interaction. The decline in face-to-face contact reported by residents echoes early findings that heavy internet use was associated with reduced family communication and smaller social circles (Kraut et al., 1998) and Turkle's (2011) argument that constant technological mediation can

crowd out attentive, in-person conversation. Cahyono (2016) likewise identifies social media as a force that changes patterns of social relations in Indonesian society. If the trend continues, values such as mutual cooperation, social awareness, and togetherness could decline. This matters because Koentjaraningrat (1974) treats mutual cooperation (*gotong royong*) as a core value orientation of Indonesian village society, and because Putnam (2000) shows that civic engagement and dense social connections are the foundation of social capital. The evidence is not one-directional, however. Kraut et al. (2002) found that the negative effects of internet use largely dissipated over time and that outcomes depended on users' existing social support. This suggests that in Gampong Lapang the problem lies less in technology itself than in patterns of use, particularly the excessive and uncontrolled use reported among adolescents.

The influx of foreign culture through the internet and social media is the most consequential cultural impact found in this study. Koentjaraningrat (2009) observes that culture can change when a society accepts new cultural elements from outside its environment, and Appadurai (1996) and Tomlinson (1999) show that global media flows accelerate such contact. The changes in dress, communication patterns, and habits among young people in Gampong Lapang can be understood as an outcome of this process, in which global trends compete with local practices for attention and prestige. Ogburn's (1922) concept of cultural lag is helpful here: technology has diffused rapidly in the village, whereas norms, family supervision, and community rules on how to use it have not yet caught up, leaving young people to navigate global cultural content with limited guidance. The declining popularity of local cultural values reported by residents is consistent with the concern raised by Sabitah et al. (2025) regarding the erosion of locally embedded meanings in West Aceh's gampong. Culture is nonetheless dynamic (Setiadi et al., 2012); the challenge is not to reject external influences but to ensure that local values continue to be transmitted alongside them.

Taken together, the results show that technology has a dual impact on socio-cultural life in Gampong Lapang: it yields real benefits in communication, information, education, and the economy, while posing challenges to social cohesion and cultural continuity. Three implications follow. First, digital literacy initiatives delivered through schools, youth and religious organizations, and gampong institutions could help residents, especially adolescents, use technology critically and moderately. Second, families play a central role in monitoring and guiding technology use among young people. Third, community leaders and village governments could bring local culture and communal activities into digital spaces, for example by documenting and promoting local traditions online, so that technology becomes a vehicle for cultural continuity rather than only a channel for external influence.

This study has limitations. It focuses on a single village and relies on qualitative description, so the findings illuminate local meanings and experiences but cannot indicate the magnitude of the changes or be generalized to other communities. Future research could compare several gampong, follow changes longitudinally, give greater voice to adolescents, and combine qualitative and quantitative methods to measure how technology use relates to community participation and cultural practice.

4. CONCLUSION

This study examined the impact of technology on socio-cultural change in the community of Gampong Lapang, Johan Pahlawan District, West Aceh Regency. The findings show that technology has become a vital part of daily activities, particularly in

communication, education, information, and the economy, and that it has had a significant influence on community life.

Technology has benefited the community by facilitating communication, accelerating access to information, supporting learning, and enabling economic activity through digital media and online commerce. It has also helped residents gain broader knowledge and carry out daily activities more efficiently.

At the same time, technology has negative effects on socio-cultural life. Excessive use of social media and the internet has reduced face-to-face interaction, and some people, especially the younger generation, spend more time on their mobile phones than on community social activities. The influx of foreign culture through social media and the internet has also influenced people's mindsets, lifestyles, and habits, contributing to a decline in local cultural values.

Technology therefore has a dual impact, offering both benefits and challenges to socio-cultural life. The community is expected to use technology wisely and in moderation so that technological development brings positive benefits without diminishing the social and cultural values that have developed in society. The role of the family, the community, and the social environment is equally important in supervising technology use, especially among the younger generation, so that technology continues to be used for positive purposes and does not damage social and cultural relations.

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