

Title : Rural Radio and Citizen Participation: Role of Digital Technology in Multi-stakeholder Participation

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Rural Radio and Citizen Participation: Role of Digital Technology in Multi-stakeholder Participation

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Abstract:

The study is a constructivist grounded theory research exploring digital technology's role in facilitating multi-stakeholder participation through DXUP-FM, a community radio in a local community in Upi, Maguindanao, Philippines. Drawing on qualitative data collected through interviews, observations, and document analysis, the study investigates how the integration of digital technology within the community radio DXUP-FM enables and shapes citizen engagement and participation. The research aimed to understand the processes, mechanisms, and factors that facilitate or hinder citizen participation through DXUP-FM community radio. It also investigates the effects of this technological integration on barangay participation in local governance among the 'tri-people' communities of the Tedurays, Bangsamoro, and Christian settlers, as well as access to information for senior citizens, Overseas Filipino Workers (OFWs), and teachers working in remote areas. During the COVID-19 pandemic, DXUP-FM played a crucial educational role by launching a school-on-the-air program on cable television, and creating online communities for residents, including OFWs, to connect and discuss relevant topics. However, challenges such as limited technology access for remote villages, intermittent power outages, and infrastructure deficiencies hindered equitable participation. Overcoming these challenges is essential to ensure that the benefits of community radio's transition to digital media create an inclusive rural communication climate

The findings led to the development of a theoretical framework that illuminates the interplay between digital technology and community radio, highlighting three core categories: Expanding Access and Connectivity: Breaking Barriers to Participation, Facilitating Collaborative Spaces: Amplifying Diverse Voices and Perspectives, and Enhancing Decision-making Processes: From Consultation to Co-creation. The theoretical framework emphasizes how digital technology acts as a catalyst for multi-stakeholder and inter-cultural participation by fostering connectivity, interactivity, and digital literacy within community radio ecosystems. The findings have significant implications for policymakers, community radio practitioners, and development organizations, providing insights into leveraging digital technology to promote inclusive and meaningful citizen participation that fosters cultural harmony, participation, and community-driven development processes towards peace-building.

Keywords: digital technologies for rural communication, knowledge brokering, Indigenous communication

Introduction

Rural radio, particularly community radio in the Philippines, played crucial roles in promoting multi-stakeholder participation and participatory governance in one of the municipalities of rural Philippines, particularly in Upi, Maguindanao.

For the past decades, the establishment of community radio was both a response to the clamor for localized programming and a vehicle for community empowerment. It was established during the early 1990s as an alternative to mainstream radio, which had formulas for programming, content creation, and production that were suited only for commercial use among mass audiences. In contrast, community radio catered to the local, everyday occurrences in community life and preferred its programming to move more towards educating its audiences rather than merely selling commodities to them. It also aimed to cultivate a participative environment by discussing grassroots community problems rather than those problems faced by the larger national audience. In many ways, community radio revitalized the rural, if not marginalized, populations, and served as a voice to these communities in need of information exchange and learning.

According to Fraser and Estrada (2001), a community radio's broadcast pattern aims to reach all members of the community it serves. The community actively participates in formulating plans, policies, and defining the objectives, management principles, and programming of the radio service. They also have a say in decisions concerning program content, duration, and schedules, allowing them to choose the types of programs they prefer. The community is encouraged to freely comment and criticize, fostering an open environment. The radio acts as the principal channel for continuous interaction between producers and receivers of messages, supported by mechanisms that facilitate easy contact between the community, program producers, and radio station management. Members of the community, whether individuals or groups, have unrestricted opportunities to produce programs with the assistance of the radio station staff and the available technical production facilities. Additionally, the community actively participates in the establishment, management, administration, and financing of the radio station.

Rivera (2010), in her earlier study of DXUP-FM using a Grounded theory approach, found that the central process operating in the shaping of the communicative environment of Upi is the development of participation among these tri-people communities through their use of, and experience with, communication technologies. The creation of participation is within the structural context of the key development challenges confronting each of the Upi tri-people communities, and the tri-people's use of radio with new media, specifically cell phones. The development of participation is embodied in the creation of cultural understanding, strengthening of good leadership, and cultivating respect between and among each of the tri-people communities. Revisiting the earlier study conducted by Rivera (2010) and comparing it to the use of digital media in community radio for multi-stakeholder participation is the focus of this study.

Rivera's earlier study shed light on the significance of communication technologies in fostering participation. It emphasized the use of radio, specifically in conjunction with cell phones, to facilitate cultural understanding, strengthen leadership, and foster respect among the communities.

This study revisits the processes of participation in DXUP-FM and analyzes how the integration and utilization of digital media have further enhanced these aspects of participation and community development. By revisiting this study, we can examine the effectiveness and relevance of digital media in promoting multi-stakeholder participation within the context of community radio. More so, it is important in the broader context of technological advancements and evolving communication landscapes. Technology has rapidly evolved since the earlier study was conducted, and digital media now plays a significant role in shaping communication practices and community engagement. By evaluating the integration of digital media in community radio, we can understand the advancements, challenges, and potential benefits associated with technological integration, assess its potential to bridge the digital divide, promote inclusivity, and empower various stakeholders in rural areas.

The Involvement of citizens in community radio

Citizen participation is essential for inclusive governance and decision-making processes. It enables citizens to engage with government institutions, voice their concerns, and actively contribute to policy development and implementation.

In the Philippines, lesser modes of citizen participation evolved from the 50s to the 70s decade but gained footing during the so-called tumultuous decade of the 80s, where citizen participation became an important component in development, from planning to managing projects (Briones, 1992). Participatory governance has gained prominence through initiatives such as participatory budgeting, community-driven development projects, and consultations with marginalized groups. It fosters transparency, accountability, and responsiveness in governance.

According to the Open Government Partnership website (n.d.), the Philippines has made commitments to governance through its membership and participation in the organization (Open Government Partnership, n.d.). The legal framework in the Philippines supports citizen participation in governance. Numerous non-government organizations actively engage with the government at various levels, aligning with the constitutional provisions that promote and protect people's rights and provide platforms for effective participation in decision-making. The Local Government Code of 1991 and the General Appropriations Act further reinforce the need for citizen engagement in local governance. While the legal framework in the Philippines facilitates citizen participation, there is a need to address gaps in implementation, improve documentation of citizen engagement, harness technology for better engagement, and create more platforms for citizen information. (Open Government Partnership, n.d.)

The convergence of community radio, citizen participation, and digital technology offers opportunities for enhancing multi-stakeholder participation and participatory governance in the Philippines. By leveraging the reach and accessibility of rural radio and harnessing the power of digital technology, marginalized communities can actively participate in decision-making processes, contribute to policy formulation, and hold government institutions accountable. Digital tools facilitate multi-stakeholder collaboration, enable real-time feedback mechanisms, and provide platforms for civic engagement and activism.

This study situates itself again in the Municipality of Upi, in Maguindanao as it exhibits the unique context where the combination of media forms interacts with the inter-ethnic nature

of communication in the community. It is especially important as it happens in Mindanao, where ethnic discourses play a large role in community development.

Problem and Objectives

This study examined how the use of community radio and digital media technologies facilitates multi-stakeholder participation among the tri-people community of Upi, Maguindanao. In examining the use of digital media and its role in community radio, it is important to discover how the combination of community radio and digital media brought about changes in the communication environment, and encouraged stakeholder participation and governance.

Specific Objectives:

1. To explore and understand the subjective experiences and perspectives of the three ethnic groups in the Upi community—the Tedurays, the Bangsamoro, and the Christian settlers— as they relate to the use of community radio and digital media in the community
2. To examine and interpret the ways in which community radio, and its transition to digital media, contribute to citizen participation and engagement among the tri-people community of Upi.
3. To identify the underlying factors that facilitate or hinder participatory processes.
4. To develop a theoretical framework that captures the nuanced understandings and interpretations of the participants, emphasizing their active role in co-constructing their social realities

Review of Literature:

History of Community Radio in Mindanao and the Philippines: Development and Present Scenario

Community radio in the Philippines, particularly in Mindanao, has always embodied the “power of mediated connection, the sense of interconnectivity that brings cultural feasting which is important for the sharing of culture (Ramirez, in Ronquillo and Tabing, 1999).

Given its pervasive nature, it is not surprising that numerous regional and community radio stations operate in the country. While there is limited empirical data available on professional practices and audience habits for community radio, advertisers recognize radio, particularly local stations, as an effective means of reaching consumers. In addition to its commercial value, community radio serves as a platform for educational programs, particularly those initiated by government agencies that address grassroots issues like nutrition. Furthermore, some ethnic minority groups and conflicting factions utilize radio as a supplementary tool for organizing and disseminating information. For example, the Cordillera Peoples Alliance occasionally utilizes radio programs as a medium for cultural activism. (Soriano, 2016, p.355 as cited in Estella, P and Estella, P. and Löffelholz, M. (n.d.)

Community broadcast media, particularly community radio, has been the subject of numerous studies in different parts of the world and in the Philippines.

Martínez-Roa, O.-G., and Ortega-Erazo, E.-G. (2018), explored the relationship between community radio stations and their audiences in Colombia's Nariño Department. The study emphasized the importance of participation for social sustainability, drawing on experiences from Latin America and Europe. The research aims to assess the level of support for citizens' involvement in radio production, broadcasting, and station management. One significant finding is that the audience recognizes radio stations as catalysts for socio-cultural dynamics in the region. However, the study observed a lack of active encouragement of community participation by station directors, likely influenced by a commercial-like organizational and production model. Consequently, these factors hinder the establishment of democratic relationships between community broadcasters and their audience, reducing citizens' opportunities to meaningfully contribute to local communication projects.

The Philippine community radio stations, on the other hand, established community radio networks. The establishment of community radio networks in the Philippines began with two significant developments: the creation of the *Tambuli* Network in 1992 and the establishment of the Radyo Natin Network in 1995 (IAWART,2018). These developments played crucial roles in the positive and negative aspects of community radio broadcasting in the country. The Tambuli Network, initiated by Mr. Louie Tabing, pioneered community radio broadcasting in the region, making the Philippines an early adopter compared to other Asian countries.

Under the *Tambuli* Network, a multisectoral community media council (CMC) is established, composed of farmers, fishermen, women, youth, market vendors, church representatives, political leaders, and volunteers from the community. The CMCs managed and were operational in their 21-member community radio stations. These stations were strategically located in economically disadvantaged, geographically isolated, and impoverished communities, where they could have a significant impact on people's lives.

The success of the Tambuli Network likely influenced the launch of the Radyo Natin Network by the Manila Broadcasting Company, the country's largest radio broadcasting corporation. On December 16, 1997, the Radyo Natin Network was introduced, consisting of 100 FM stations strategically positioned nationwide, utilizing state-of-the-art satellite technology. (IAWRT, 2018)

In Mindanao, the *Radyo ni Juan* network was established by AlterMidya Network , a nationwide coalition of independent, progressive, and community-oriented media organizations. While *Radyo ni Juan* operates as a commercial entity, it places significant emphasis on community radio by assisting underserved farming communities and indigenous peoples in setting up their own stations. An example of this is Radyo Lumad 1575 AM, a community radio station managed by the Higaonon indigenous group in Central Mindanao. Radyo Lumad broadcasts traditional knowledge, music, chants, as well as national and international news, covering Bukidnon and Misamis Oriental provinces. (WACC Global, 2019).

DXUP-FM : community radio and the use of new media

The municipality of Upi, in Maguindanao province, established a community radio station, called DXUP-FM , started as a 300-watt station established under a project called “gender and peace radio” (GenPeace). The local government in Upi prides itself in promoting the so-

called tri-people thrust and the practice of cultural governance. The term tri-people was used starting in the 1980s as a catch-all term to include the major groupings of Mindanawons-the Bangsamoro (Muslims), the *Lumad* Tedurays (native inhabitants), the Christian settlers and their descendants or those born in Mindanao which includes all migrants, especially those who came in the 20th century (Rodil, 1998). Cultural governance was a term applied by the then Mayor of Upi, Mayor Ramon Piang, Sr. as it refers to their form of governance which respects and attempts to unify the diversity of cultures in their municipality. Both the radio and the local government's service programs adopted the tri-people thrust—addressing each of the ethnic groups in Upi—the Bangsamoro (Muslim), the Christian settlers, and the Tedurays. Advocating for gender and peace was the initial thread that connected almost all of its programs

Rivera's (2010) study in Upi, focused on the use of community media technologies such as radio, the Internet, and cell phones among the Tedurays, Bangsamoro, and Christian settlers. Rivera's (2010) findings highlighted that the use and experience of communication technologies, such as SMS in mobile phones and the Internet, engaged listeners and encourage feedback on its programs. It played a significant role in fostering participation among the tri-people communities in Upi. Her grounded theory study arrived at a framework for understanding the emerging communication environment of Upi and its consequences in creating participation among the tri-people communities. The use of new media, particularly cell phones, facilitated cultural understanding, strengthened leadership, and cultivated respect among the communities. The concept of "tri-people" served as a unifying element, supported by the structures within the municipality's governing bodies, media, and educational systems. The study emphasized the power of exchange and reflexivity within the tri-people environment, highlighting the significance of good leadership and governance in unifying the communities and creating a participative communication environment. The development of respect and the promotion of active sharing and exchange was essential in overcoming conflicts in the tri-ethnic community and fostering a communication environment conducive to collaboration and understanding.

In mid-2005, Upi started developing its digital infrastructure, way ahead of other municipalities in the province. It was chosen to be one of the top Six Awardees of the 2005 Asia Pacific Economic Council (APEC) Digital Opportunity Center (ADOC) for Best e-Practice. It also received a *Galing Pook* award in 2004 for being one of the best local government units in the country. Winning that award is an affirmation of being a model of good governance, for adoption in other communities. It also affirms the community and the local government's commitment to good governance. DXUP-FM, was the local government's Upi's arm for good governance.

Community Radio, Digital Technology, , and Participation:

In Ewart, J., & Ames, K. (2016) study of talkback radio as a participatory form of media, they draw data from focus groups with audiences of twelve Australian commercial and non-commercial talkback radio programs to discover why some study participants use SMS and e-mail and why some do not contribute via these technologies. By examining audience 'participation' in talkback programs via SMS and e-mail, the authors conclude that while study participants strongly associated talkback with phone calls, e-mail, and SMS are largely accepted as regular methods of contributing to and communicating with talkback radio programs.

The role of community radio in promoting participatory governance and community engagement was studied by AHM Bazlur Rahman S21BR. (2017), Naaikuur, L., Diedong, A. L., & Dzisah, W. (2022) and Gasana, S. (2023). They all recognize the importance of community radio in facilitating discussions, holding administrations accountable, and empowering citizens in the local governance process. Additionally, they emphasize the potential of community radio to contribute to good governance by enhancing participation, promoting human rights, and encouraging responsible behavior.

However, having its own unique socio-political context also brings about specific challenges, opportunities, and strategies related to community radio and participatory governance.

Bazlur Rahman S21BR. (2017) highlights the importance of the right to information in Bangladesh, while Naaikuur, L., Diedong, A. L., & Dzisah, W. (2022) in Ghana highlights the importance of creative programming in mobilizing people for policy-making in local governance. This study identifies challenges such as limited access to phone credit and language proficiency among community radio workers. Gasana, S. (2023) mentions the need for innovative approaches and public funding in Rwanda. These variations in challenges reflect the specific contextual factors that influence the role and effectiveness of community radio in each country.

Hirschmeier, S., Tilly, R., & Beule, V. (2019) conceptualized the case of digital transformation of radio from the perspective of service-dominant logic and digital service innovation and discussed relevant areas of service innovation. The authors propose a reimagining of the digital transformation of radio broadcasting through the lens of service innovation based on service-dominant logic. They outline three domains of service innovation: service ecosystem, service platform, and value co-creation. A service ecosystem is described as a self-contained system of interconnected actors that collaborate and create value through service exchange. Within this ecosystem, the service platform acts as a modular structure that facilitates interaction between actors and resources. Value co-creation refers to the processes and activities that integrate resources and involve different actor roles in the service ecosystem. The authors emphasize the importance of addressing key issues within these domains for organizations to achieve successful service innovation.

Digital technologies in the Philippines

In the Philippines, the mobile phone changed the modes of interaction of the citizens, and even among highly disparate and remote communities, it is already a part of the regular day-to-day communications of villagers.

Recent statistics showed that there were 85.16 million Internet users in the Philippines at the start of 2023 when Internet penetration stood at 73.1 percent. The Philippines was home to 84.45 million social media users in January 2023, equating to 72.5 percent of the total population. A total of 168.3 million cellular mobile connections were active in the Philippines in early 2023, with this figure equivalent to 144.5 percent of the total population. (Kemp, 2023).

Citizen participation became part of the paradigm shift from government to governance and with it, the democratization of processes both within and outside the government.

Mr. Louie Tabing, a veteran broadcaster, who started the Tambuli radio stations all over the Philippines, highlighted that people's participation in the operation of the community radio stations contributes to democracy. To him, democratic communication means:

“ When people are communicating, they are very likely to get involved in the affairs and welfares of governance and everything in the community. They do not (just) leave it up to the leaders, and that’s how the democratic spirit comes around. This is a good start for democracy. Every person – every man, woman, or child should have an opportunity to radio broadcast. One has a joy to express, a grievance to manifest, an opinion to espouse, to congratulate, or simply a talent to show, radio is for him, and radio is for everybody. It’s not only for the elite, it is not only for the rest who are well educated or who are good speakers, what I say “do-gooders”. Radio is for everybody, that’s the essence of democracy .” (Tabing, L. Personal interview, in Rivera.2007).

The establishment of community radio networks, utilization of new media technologies, and emphasis on participatory governance contribute to the democratization of communication processes and the advancement of local governance. The digital transformation of radio presents new possibilities for service innovation and value co-creation in the field of broadcasting.

However, there are certain gaps and limitations that warrant further investigation and research. Some of the existing gaps and limitations in the literature include the limited focus on specific rural contexts. It would be beneficial to explore the nuances and variations in citizen participation and the role of digital technology in different rural settings in the Philippines, as each context may present unique challenges and opportunities.

Another gap is the lack of grounded theory studies: While some studies have explored the theoretical aspects and potential benefits of digital technology in multi-stakeholder participation, there is a relative scarcity of grounded theory studies that examine the processes involved in using digital tools to facilitate citizen participation in rural radio. This present research traced the real-world outcomes and experiences of informants, from the time they used traditional media and combined it only with SMS, to using digital technologies, particularly live streaming on social media, and how it fostered multi-stakeholder engagement.

Some of the studies also show inadequate attention to marginalized groups: Although citizen participation was often discussed in the studies which contextualized the empowerment of marginalized groups, there is a need for more research that specifically examines the role of digital technology in facilitating the participation of these groups in community radio initiatives, particularly in the Philippines. This includes considering the challenges faced by Indigenous and marginalized communities in accessing and effectively utilizing digital tools for engagement, which this present study analyzed.

Methodology

This study adopted a constructivist Grounded Theory (GT) approach, as proposed by Charmaz (2006,2009,2014), to generate theories and understand the relationships between rural community radio, digital technology, and citizen participation. The GT methodology allows for an in-depth exploration of the experiences, perspectives, and interactions of stakeholders involved in community radio initiatives.

Grounded theory has several distinct methodological genres: traditional GT associated with Glaser; evolved GT associated with Strauss, Corbin, and Clarke; and constructivist GT associated with Charmaz. Each variant is an extension and development of the original GT by Glaser and Strauss. (Chun Tie, Birks, & Francis, 2019). The Grounded Theory approach that

the researcher undertook is constructivist, and hence, the Grounded theory model arrived at, is contextually situated in the time, place, culture, and situation of Upi.

The researcher chose the constructivist GT approach, which:

“co-construct data together with the participants, while their social, cultural and historical settings, academic training and personal worldviews inevitably influence these data, the analysis thereof, and the ‘emergent’ theory (Charmaz, 2006, 2009, 2014; Mills et al., 2006; Thornberg and Charmaz, 2014). As Charmaz (2014: 239) puts it, the constructed ‘theory depends on the researcher’s view; it does not and cannot stand outside of it.” (Bryant and Charmaz, 2019).

The researcher’s ontologically relativist stance and epistemologically subjectivist positionality led her to choose the constructivist approach in GT.

This GT approach includes a researcher’s theoretical sensitivity to the data (Charmaz, 2006; Strauss and Corbin, 1990). To have theoretical sensitivity, the researcher gets her conceptual perspectives from the body of literature in the area of interest being studied and from theories in the field. The theories provide the researcher with sensitizing concepts from which emerging data is interpreted.

In the context of the current study, the transformation of radio to the digital environment merited newer analysis. The constructivist GT approach, emphasizes the active involvement of researchers in co-constructing knowledge with participants. It recognizes that knowledge is socially constructed and shaped by the interactions and interpretations of individuals within their specific contexts.

Rather than trying to erase their preconceptions or pretend that their privileges and preconceptions do not influence the research process, grounded theorists have to engage in reflexivity and explicate their preconceptions and positions during every phase of the data gathering and analysis (Charmaz, 2014; Charmaz et al., 2018).

Data Collection

A variety of sampling techniques was done, starting with purposive sampling, followed by concurrent data generation and collection and data analysis, through various stages of coding, undertaken in conjunction with constant comparative analysis, theoretical sampling, and memoing. Contextual data were gathered from 24 participants, comprising community radio broadcasters, teachers and students, government officials, and community representatives. The participants for the focused group discussions consisted of two groups- one for teachers/ school heads, and the other for youth groups. The teachers were interviewed face to face while the youths/ students were interviewed via the online platform Zoom. The participants for the youth/students’ FGD were recruited from the main public school in the municipality - the Upi Agricultural School (UAS). Participants for both the youths/ students and teachers were selected regardless of year levels and subjects taught, respectively, but must come from the three groups- the Tedurays, the Christians, and the Bangsamoro groups. The key informant interviews consisted of 10 key informants interviewed in depth for 60-120 minutes to study further the emerging categories from the data analysis in the FGDs

During the data analysis phase, the researcher engaged in open coding, axial coding, and selective coding, as outlined by Charmaz (2014).

The interviews and FGDs were semi-structured to elicit rich and contextual information regarding their experiences with community radio, and its transition to *teleradio*, through

the Facebook social media account. Interviews (both Key informant and focused group interviews) were transcribed, translated, coded, and analyzed for themes and categories that define the phenomenon under study. From this method, all data collected underwent the rigorous process of defining, refining, and checking the conceptual categories that are pertinent to the research. In that way, the process of grounded theory building is more relevant and meaningful to the community being addressed.

Informed consent was prioritized to ensure the protection and rights of the participants. Informed consent was sought from all participants involved in the study, including community members, radio station staff, and other stakeholders. The purpose of the study, its potential risks and benefits, and the voluntary nature of participation were clearly explained to the participants. They were also informed about the confidentiality and anonymity of their responses and how the data would be used for research purposes only.

Results and Discussion:

The current state of the community radio station and its role in citizen participation

The Municipality of Upi subsequently became part of the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) on January 25, 2019. The Moro Islamic Liberation Front (MILF) and the Philippine Government reached a significant phase of peace negotiations after the RA 11054 or the Bangsamoro Organic Law (BOL) was successfully ratified. This paved the way for the creation of the newly-established region—the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM), which replaced the Autonomous Region in Muslim Mindanao (ARMM).

The newly-established region expanded its territory after a two-part plebiscite was held on January 21 and February 6. Its new territory included Cotabato City, 63 Barangays in North Cotabato and the five provinces of the defunct ARMM—Maguindanao, Lanao del Sur, Basilan, Sulu and Tawi-Tawi. (BARMM Official Website, 2019).

DXUP-FM decided to shift to digital media, to open up new possibilities for engagement and participation among its tri-people audiences. The Station Manager, together with his staff, presented the idea to the Community Media Council (CMC) which approved the implementation of this new mode of broadcast delivery. The DXUP-FM adopted the use of teleradio, which involves broadcasting content through digital platforms such as Facebook, which can be accessed through mobile applications. This shift allowed the station to reach a wider audience and provides additional avenues for interaction and participation.

Streaming refers to the process of transmitting data for video viewing over the internet. It involves delivering video content in small portions, typically from a remote storage location. This approach allows client devices to begin playing the video without having to download the entire file beforehand. Live streaming, on the other hand, refers to the real-time transmission of video content over the Internet, without prior recording or storage. It has become a popular method for broadcasting various types of content, including TV shows, video game sessions, and videos shared on social media platforms.(Cloudflare, n.d.).

Digital media, particularly Facebook Live-streaming, eventually became a popular tool for DXUP to engage its audience in real-time. By live-streaming its radio programs on Facebook, DXUP expands its reach beyond traditional radio frequencies and connects with listeners

who prefer online platforms. This allowed individuals to tune in to the radio station's programs regardless of their location, making it accessible to a larger audience.

In an interview with one of DXUP's anchor, he said that the total page reach of DXUP, is at 754,858 as gleaned from their Facebook page's insights.(May 8,2023, Facebook)

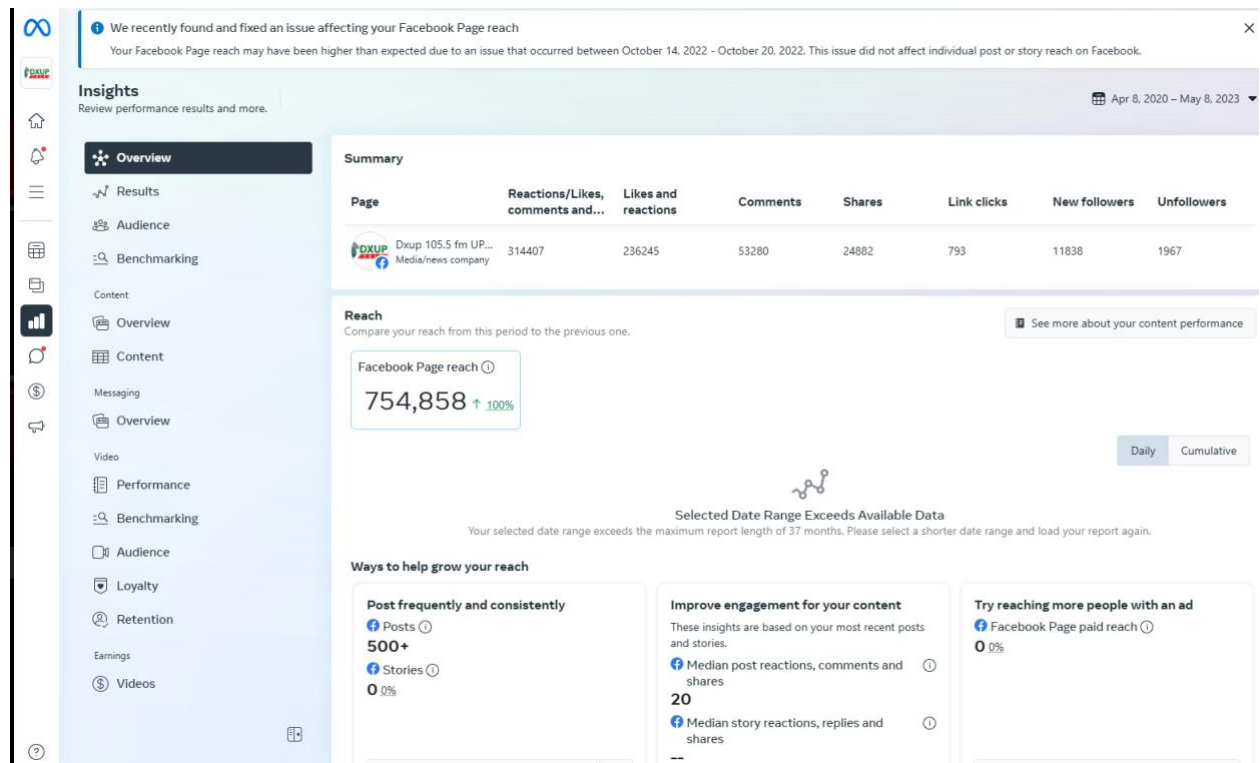


Fig. 1 . Screen capture of the Page Reach of DXUP-FM

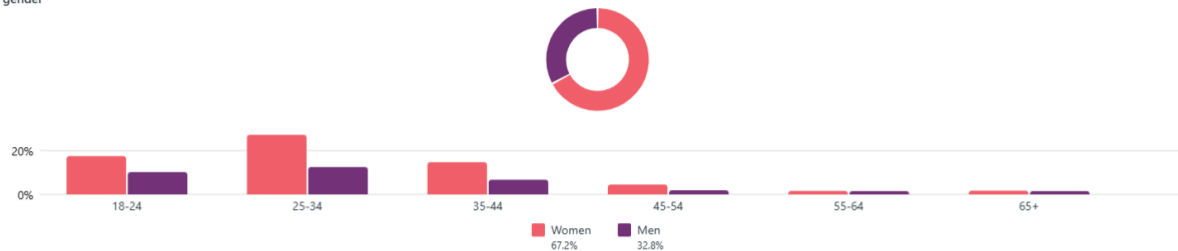
Audience

Current audience Potential audience

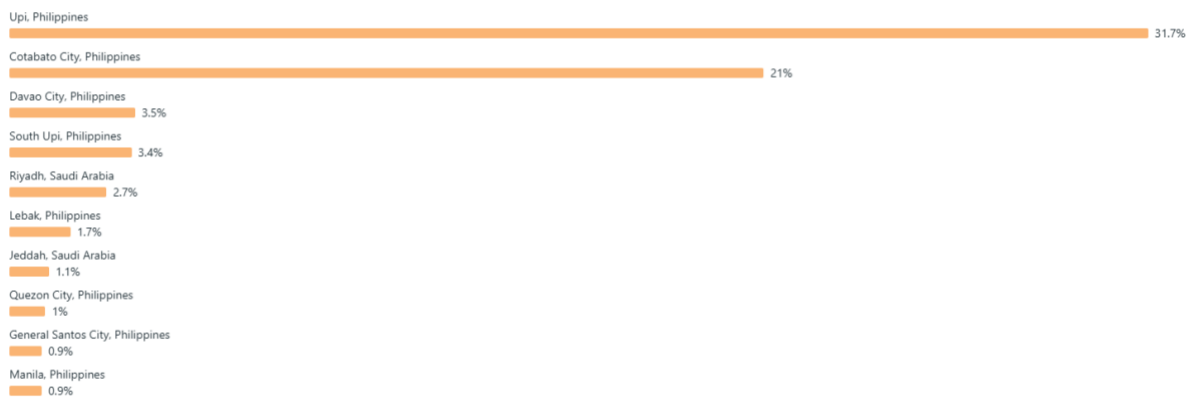
Facebook Page likes ⓘ

9,998

Age & gender ⓘ



Top cities



Top countries

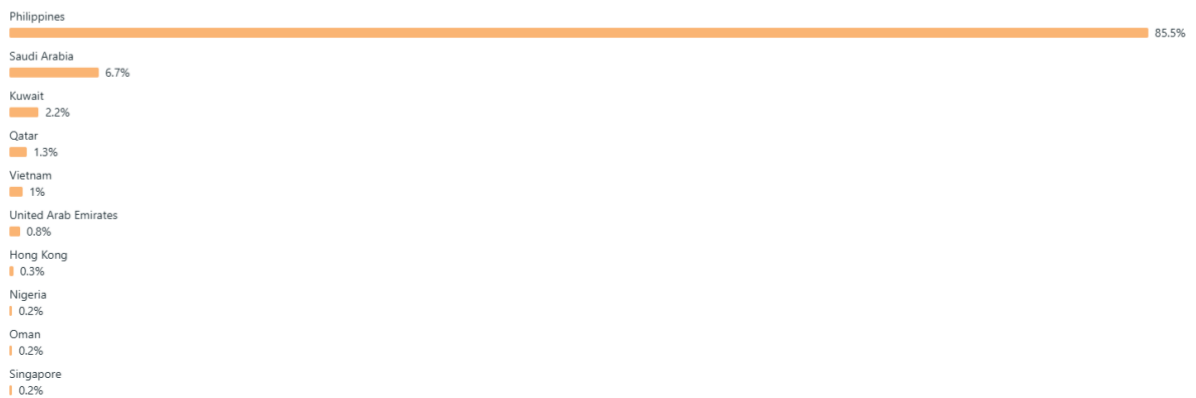


Fig. 2 Screen capture of Audience reach of DXUP- FM

As can be seen in Fig. 1, the Page reach is already 754,858 individuals. In Figure 2, one can see the places and countries reached, and people abroad, mostly accounting for the Upi OFWs who watch the broadcasts.

The Tedurays, the Bangsamoro and the Christian settlers— as they relate to the use of community radio and digital media in the community

DXUP has not only expanded access to information but also provided a platform for the appreciation of each tribe's culture and beliefs. The digital platform has become a valuable source of news updates, school information, agricultural concerns, market prices, hospital emergencies, weather updates, and disaster warnings.

Participants in the study expressed that the establishment of their community radio station has significantly emphasized their cultural heritage and traditions, particularly for the Tedurays, and Bangsamoro. They recognized the importance of DXUP in keeping the tri-people communities connected and engaged, especially during the challenging times of the pandemic.

Notably, the newly established Ministry of Indigenous Peoples Affairs (MIPA) under the BARMM government, has featured Teduray anchors and dedicated programs discussing Indigenous issues within the region, directly impacting the Teduray community. In addition, the program called KeadatAdatan has allowed the Teduray anchors to share their customs, traditions, and translate materials and information into their respective dialects, ensuring better understanding and engagement within their ethnic communities.

The station manager emphasized that the radio programs were carefully designed to encompass the perspectives and interests of each community within the tri-people framework. The programs often featured interviews and storytelling that celebrated indigenous culture, addressed local issues, and fostered understanding and collaboration among different tribal groups. Figure 3 illustrates the diverse range of DXUP's daily programs, which catered to the specific needs and interests of the Tedurays, Bangsamoro, and Christians, varying throughout the day.

DXUP DAILY PROGRAM

Time	Program	Anchor	Day
5:00-6:30 am	<i>Bantay bayan</i> (Citizen Watch morning edition)	Nancy Lawan & Noralyn Bilual	Monday to Saturday
6:30-7:00 am	DXUP <i>balita</i> (NEWS)	Noralyn Bilual & Nenita Minted	Monday to Saturday
7:00-8:00 am	<i>Usaping katutubo sa BARMM</i> (Indigenous Issues in BARMM)	Nancy, Noralyn Nenita	Every Friday
8:00 -9:00 am	<i>Buhay-buhay sa DXUP FM</i> (Life at DXUP FM)	Nancy Lawan with segment reporter	Monday to Friday
9:00-10:00 am	<i>Talakayang Pangbarangay</i> (Barangay Discussion)	Rex Pablo	Monday to Friday
10:00-11:00 am	<i>Salo salo together</i> (Gathering Together)	Noralyn Bilual	Monday to Friday
11:00-1:00 am	<i>Udto na Adih</i> (It's Noon already, Adih)	Andrew Bitoon	Monday to Friday
1:00-3:00 pm	Unforgettable	Nancy Lawan	Monday to Friday

Time	Program	Anchor	Day
3:00-4:00 pm	<i>Bantay Bayan</i> (Citizen Watch afternoon edition)	Nenita Minted	Monday to Friday
4:00-4:30 pm	DXUP <i>balita</i> (News)	Noralyn and Nenita	Monday to Friday
4:30- 6:00 pm	<i>Suara Talainged (Bangsamoro Program)</i>	Omar Kanan	Monday to Friday
6:00 -7:00 pm	<i>Keadat-adatan (Teduray program)</i>	Nancy,Noralyn,Nenita	Monday to Friday
7:00-9:00 pm	<i>Musikahan</i> (Music Session)	Jake Darren Marquez	Monday to Friday

Block time program

Time	Program	Anchor	Day	
7:00-8:00 am	<i>Usaping katutubo sa BARMM</i> (Indigenous Issues in BARMM, A MIPA program)- for Tedurays	Nancy,Noralyn,Nenita	Every friday	
9:00-10:00 am	<i>Bangsamoro Segurado</i> (Bangsamoro Assured- a PhilHealth Program)	Nancy,Noralyn,Nenita	Every 2 nd and last Friday of the month	
7:00-8:00 pm	Message of Deliverance	Jun Grande	Every sunday	
7:00-9:00 pm	<i>Ang Diyos batas at bayan</i> (God, Law, and Nation)	PMAJ CESAR A IBAL JR.,	Every Tuesday	

Fig. 3 DXUP's radio programming

The use of Facebook Live-streaming on DXUP-FM enabled audience members to engage with the community radio station in various ways. Firstly, Key informants responded that it allows listeners to comment and react to the live-streamed content, providing instant feedback and creating a sense of participation. According to them, listeners can express their opinions, ask questions, and share their thoughts in real-time, fostering a dialogue between the station and its audience.

Additionally, DXUP conducts interactive sessions through Facebook Live-streaming. They invite listeners to call in, participate in interviews, or join live discussions on various topics. This interactive format encourages active engagement and involvement from the audience, strengthening the connection between the station and its listeners.

Among youth participants, they noted that Facebook Live-streaming offers the opportunity for DXUP to incorporate visual elements into their broadcasts. They showcase video

interviews, present visual aids, or share multimedia content during their live-streamed programs. This enhances the overall listening experience and allows for a more dynamic and engaging presentation.

The FGDs and Key informant interviews indicated one important contribution of DXUP- the production of School- on – the Air to deliver the learning modules to the children during the COVID-19 pandemic. Teachers, parents, and students have greatly benefited from DXUP radio's "school on the air" initiatives. With the closure of schools and the shift to remote learning, The Philippine Department of Education (DepEd) used what they call a Learning Continuity Plan, as their main crisis response, asking teachers to employ multiple learning delivery modalities, prepare instructional materials, and plan the organization of classes according to these modalities. The Dep Ed teachers and officials of Upi was able to employ a more effective approach using their community radio, DXUP-FM to launch a School -on- the Air (SOA) approach to enable learning continuity among their learners.

DXUP has collaborated with elementary and secondary educational institutions to broadcast lessons, educational content, and guidance for both students and parents. It hooked their radio signals with the cable channels existing in the area, and thus, the concept of *teleradio* became the mode of delivery for the teachers connecting with their learners across all the villages of Upi. These programs cater to different grade levels and subjects, ensuring that students continue to receive quality education despite the limitations of in-person schooling. DXUP provided an accessible platform for remote learning, especially for those who have limited access to the Internet or online resources. The "school on the air," the teachers noted, has enabled continuous education and information dissemination amid the challenges posed by the pandemic and thus served their needs of teachers, and that of parents, and students.

Teachers who participated in the FGD stated that the SOA aired over DXUP played a major role to bridge children from the crisis at the same time acted like a bridge for teachers to get information from the local government or their Department of Education.

One of the teachers quipped : “ *Kumbaga sa sasakyan, ‘yong radyo ang makina, ‘yong guro siya ang driver na karga ang mga impormasyon.*” [Just like a car, the radio is the engine, and the teacher is only the driver who “drives” (the information) to make the car work]

In interview with the Station Manager, he attested that an affirmation of DXUP’s contribution to the community was in the recent awarding ceremony, where the then Mayor of Upi won the Salamat Excellence Award for Leadership (SEAL), the highest recognition and the most prestigious award given by the Bangsamoro Government to leaders with an outstanding delivery of services that contribute to the establishment of a Moral Governance in the BARMM by popularizing the principle of volunteerism demonstrated by great Bangsamoro revolutionary leader Salamat Hashim and in honor of him. This seal was won by Former Mayor Ramon Piang Sr. of Upi, who received a cash incentive worth Php2.5-million. The DXUP-FM community radio was cited as the vehicle in delivering services to the Upi community. The present Station Manager said that the cash incentive shall be invested in DXUP-FM’s program enhancement, expansion and/or innovation of the community radio.

Citizen participation among the tri-people community of Upi.

The use of digital media and Facebook Live-streaming also facilitates audience participation beyond the broadcast itself. Anchors interviewed pointed to the creation of online communities or groups among Upi residents who have gone abroad, where listeners can interact with each other and with the station. These platforms provide a space for discussions, sharing of ideas, and networking among Upi residents and their family members abroad.

DXUP- FM served the senior citizens, by providing programming tailored to their needs and interests. The community programs of the municipality such as fiesta celebrations and special events were often not accessible to senior citizens. Also, updates on government services were broadcasted for the elderly, entertainment segments, health and wellness tips, and mental health support, were aired through the *telerradio* channels and helped alleviate feelings of isolation and loneliness. The community radio serves as a vital source of information and companionship for senior citizens who may be more vulnerable to the impacts of the pandemic.

In the case of OFWs, the station manager and the anchors all agreed that DXUP-FM has addressed its unique challenges by offering programs focused on their rights, welfare, and reintegration services. These programs provide updates on repatriation efforts, job opportunities, legal assistance, and financial management advice. By broadcasting relevant information, community radio ensures that OFWs stay informed and connected to resources that can help them navigate the uncertainties brought about by the pandemic.

Overall, the shift to digital media, particularly through the use of *telerradio* and Facebook Live-streaming, opened up new opportunities for engagement and participation in community radio. It enables a wider reach, real-time interaction, and the incorporation of visual elements, enhancing the overall listening and viewing experience for the audience. By embracing digital platforms, yet leveraging the power of community radio can effectively adapt to the changing media landscape and foster a stronger connection with their listeners. These findings demonstrate the transformative potential of digital technology in rural radio and citizen participation. It has the capacity to bridge information gaps, foster inclusive dialogue, and promote social change.

Challenges to digital technology in Upi

However, challenges in the use of digital technology abound. Many of the FGD and interview participants decried their limited access to technology, the lack of tools, even as simple as analog phones, a lack of awareness or capacity towards digital literacy, and most of all, infrastructure gaps, within the radio station itself and on the use of digital tools, all need to be addressed to ensure equitable participation. On top of that, the municipality and the province are beset with frequent power interruptions which break down the live-streaming of events, shuts down access to telecommunication signals, and affect the running of the station. This has been raised in almost all of the interviews and FGDs, and is the most serious problem that prevents community radio from fully expanding its reach and potential.

The development of a Grounded Theory Model

The Grounded Theory approach enabled the researcher to develop a framework

for understanding the communication environment of Upi in creating participation among the tri-people communities- the Tedurays, the Bangsamoro, and the Christian settlers.

The findings led to the development of a theoretical framework that illuminates the interplay between digital technology and community radio, highlighting three core categories: Expanding Access and Connectivity: Breaking Barriers to Participation, Facilitating Collaborative Spaces: Amplifying Diverse Voices and Perspectives, and Enhancing Decision-making Processes: From Consultation to Co-creation. The theoretical framework emphasizes how digital technology acts as a catalyst for multi-stakeholder and inter-cultural participation by fostering connectivity, interactivity, and digital literacy within community radio ecosystems. The findings have significant implications for policymakers, community radio practitioners, and development organizations, providing insights into leveraging digital technology to promote inclusive and meaningful citizen participation that fosters cultural harmony, participation, and community-driven development processes towards peace-building.

Conclusion

The results of this study highlight the communication environment of Upi, Maguindanao, focusing on the community radio station DXUP-FM and its utilization of digital media. Upi stands out as a unique rural and remote community that has successfully integrated new media technologies, such as live streaming, social media, and SMS, into its community-based broadcasting. Despite its geographical isolation, Upi has demonstrated its commitment to local community development through the effective utilization of communication technologies.

The use of digital media, particularly Facebook Live-streaming, has enabled DXUP-FM to expand its reach and engage with a broader audience beyond traditional radio frequencies. The radio station's programs, which celebrate indigenous culture, address local issues, and promote understanding among the tri-people communities of Tedurays, Bangsamoros, and Christian settlers, have facilitated interaction and dialogue within the community.

DXUP-FM's shift to digital media has not only enhanced audience participation but also served as a platform for various initiatives. For instance, the radio station played a crucial role in delivering education during the COVID-19 pandemic through the "school on the Air" program. DXUP-FM collaborated with educational institutions to broadcast lessons and educational content, providing access to quality education for students, parents, and teachers. The use of digital media has also fostered citizen participation by creating online communities and platforms for discussions and networking among Upi residents, including overseas Filipino workers.

However, the study also revealed challenges in the adoption of digital technology in Upi. Limited access to technology, intermittent power outages, and infrastructure gaps pose barriers to equitable participation. Addressing these challenges will be crucial to ensure that all members of the community can fully benefit from the opportunities presented by digital media.

Overall, the integration of digital technology in rural radio, as exemplified by DXUP-FM, has empowered rural communities, improved access to information, and enhanced citizen participation. It has the potential to bridge information gaps, promote inclusive dialogue,

and bring about social change. By embracing digital platforms while leveraging the power of community radio, DXUP-FM has effectively adapted to the changing media landscape and strengthened its connection with listeners.

To further enhance the role of community radio in rural communities, the following recommendations can be considered:

Strengthening Digital Infrastructure: To maximize the benefits of digital technology in community radio, it is essential to address infrastructure gaps, particularly in remote rural areas such as Upi. Investments in internet connectivity, bandwidth, a reliable electricity supply, and access to affordable digital devices are crucial for ensuring equitable participation and engagement.

Collaboration and Partnerships: The experience of Upi showed the importance of collaboration. Community radio stations should collaborate with their local government unit, but also with educational institutions, civil society organizations, and other stakeholders to leverage their resources and expertise. Partnerships can support the development and implementation of innovative programs, facilitate knowledge exchange, and expand the reach of community radio initiatives. The case of Upi has shown that the support of BARMM or the Bangsamoro government, helped facilitate a multi-stakeholder engagement, expand reach and enable a more localized knowledge -sharing.

Content Diversity and Representation: Community radio stations should strive to ensure diverse and inclusive content that represents the interests, concerns, and voices of all community members. Programming should cater to the needs of different groups such as tribal communities, young and old populations, and various religious denominations. This can be achieved through audience feedback, community engagement initiatives, and partnerships with local organizations.

Monitoring and Evaluation: Regular monitoring and evaluation of community radio initiatives are essential to assess their impact, identify areas for improvement, and make informed decisions for future programming. Collecting feedback from the audience, conducting surveys, and analyzing listenership data can provide valuable insights into the effectiveness of digital media strategies and community engagement efforts.

Policy Support: Governments and regulatory bodies should recognize the importance of community radio in promoting citizen participation, local development, and social cohesion. Policies should be developed to support the integration of digital technology in community radio initiatives, ensure equitable access to resources, and protect the freedom of expression and media plurality.

Research and Knowledge Sharing: Continued research and knowledge sharing in the field of rural communication and the use of digital technologies are crucial to inform best practices and innovations. Researchers, practitioners, and policymakers should collaborate to generate evidence-based insights, share case studies, and disseminate knowledge to promote sustainable and inclusive community radio practices.

By implementing these implications and recommendations, community radio stations can further enhance their role in serving rural communities, facilitating citizen participation, and fostering inclusive communication environments. The transformative power of digital technology, coupled with the reach and accessibility of community radio, can contribute to the social, cultural, and economic development of rural areas, empowering individuals and strengthening community bonds.

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