

***Broadcast Media Diversity as an 'Enabling Environment' for Sustainable Media
Democratization: A Media Ecology Perspective***

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Abstract

This research aims to examine media diversity based on broadcasting categories and broadcast areas. Based on media ecology theory, this research focuses on the current state of the broadcast media industry in Indonesia from the perspective of media ecology and media democratization. This research uses digital methods that focus on data mining to collect and manage a large set of broadcasting media institution data obtained from the official website of the Indonesian Broadcasting Commission (KPI). Based on the data of broadcasting institutions at the Indonesian Broadcasting Commission, there are 3408 broadcasting institutions in Indonesia. Furthermore, the data is analyzed based on the available data structure, including institution type, network system, broadcasting type, broadcast system, and province. The result of this finding is that the ecological diversity of broadcast media in Indonesia has not been fully realized. The dominance of private broadcasters indicates a very high level of competition. Meanwhile, community broadcasters only exist in some provinces. Furthermore, this condition has the potential to weaken the broadcasting media ecosystem both in terms of industry and democracy.

Keywords: Media Ecology, Media Diversity, Digital Television, Indonesian Broadcasting Commission

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Introduction

Despite many critics, the Indonesian Government finally enacted Analog Switch Off (ASO) policy in the broadcasting industry amid Covid-19 Pandemic in August 2023. Digital migration policy in Indonesia has been carried out since 2009 and has been planned to be accomplished by 2018. Meanwhile, the plan ran into multiple postponements.

Since its inception, digital TV migration has raised many questions. The development of digital broadcasting infrastructure through multiplexing technology is vital in the digital TV business. It requires capital that is not cheap. It is planned that all broadcasters must rent to be able to broadcast. Prabowo (2012) noted the potential suppression of local and community TV. The majority of the Multiplexing Broadcasting Institution or *Lembaga Penyiaran Penyelenggara Penyiaran Multipleksing* (LP3M) were existing broadcasting actors who had dominated television in Indonesia.

More than two decades of broadcasting media technology transition is not a short period of time. During this transition period, the development of broadcast media in Indonesia has experienced dynamic fluctuations. The growth in the number of television stations owned by political figures as well as the increasing number of media businesses is influenced by the complex economic, political, habitual and cultural order of Indonesian society (Wahyuni, 2017). Regarding the delay in digital TV migration in Indonesia, Simamora et al. (2022) argued that it was caused by legal uncertainty, infrastructure, and *setup box* provision as the main factors that hindered the analog switch-off process in Indonesia.

Broadcasting landscape in Indonesia is significantly changing. In terms of quantity, at the start of the Broadcasting Law in 2002, there were only five private (free-to-air) television broadcasters. Subsequently, at the beginning of the Digital TV migration, this number increased to 400 broadcasters. A total of 218 of them are owned by private television stations that broadcast nationally and 27 public television stations under TVRI (Rianto et al., 2012, p. 62).

In terms of ownership, there is a concentration of ownership of private broadcast media. Armando (2014) argues that commercial television growth in Indonesia has conflicted with the country's media democratization. According to Armando, Indonesia's television industry is dominated by five large media corporations which he called 'the greedy giants.' Furthermore, within liberal-democratic context, concentration of media ownership set Indonesia back to being more authoritarian. Therefore, strong policies promoting diversity in ownership and in political viewpoints are needed (Masduki & d'Haenens, 2022).

Media diversity, as a concept, is extensively investigated as an important factor for democracy. In the context of democracy, media diversity is considered as the guarantee of citizens' right to information and right to expression. In addition, media diversity becomes more significant when democracy is realized in crisis. The fact that the media oligarchy has had a significant impact on the development of democracy in Indonesia in a more authoritarian direction is self-evident of the crisis. What we are trying to say is that encouraging media diversity from a normative paradigm is not sufficient. As Plaisance noted, media theorists have created competing normative frameworks based on libertarian and communitarian philosophies (Plaisance, 2005). Media theorists also often get caught in epistemic myopia or blind spots which result in judgments that negate each other. Therefore,

we need to expand our epistemic horizon on media diversity in terms of democracy, such as media ecology.

This paper focuses on media diversity in contemporary Indonesia from the perspectives of media ecology and media democratization. Although the two concepts developed from relatively different epistemic areas, we argue that at a certain point they have an intertwined intersection. For example, the *fake news* phenomenon can be seen as an indicator of media ecology problems (De Biase, 2017). Another example is the failure of print media to adapt, causing some of them to go out of business. According to data from *Serikat Perusahaan Pers*, a press companies union, 593 print media were registered in 2021, but a year later this number declined to 399 (Dwi, 2023). The low wages of media workers are disproportionate to the workload and risks they face (Aliansi Jurnalis Independen, 2021). Furthermore, the rampant misuse of online media for short-term political and economic interests has led to a decline in the professionalism of journalists and media organizations. This research aims to examine media diversity based on broadcasting categories and broadcast areas.

Both ecological and democratic perspectives recognize the importance of media diversity. Not only as a guarantee of human rights in obtaining information but also the survival of the media itself. The question is then, how is the current state of broadcasting media diversity in Indonesia based on broadcasting categories and broadcast area?

Theoretical Framework

Within the field of communication studies, the concepts of media democracy and media ecology have emerged from distinct scholarly traditions. To construct a theoretical framework, this study begins with an exploration of media diversity within the context of democratic societies. It subsequently delves into the ecological perspective of media diversity. Finally, we concludes by proposing media diversity as an enabling environment for the media systems sustainability.

Media Diversity in the Context of Democracy

A common argument for the importance of media diversity in a democracy is that diversity of ownerships and, a guarantee that broadcasting ownership is not centralized and monopolized by a few individuals, groups or business entities, which is desirable to ensure a climate of fair competition in the broadcasting industry (Judhariksawan, 2014, as cited in Kholik, 2021). Furthermore, media diversity is often represented by diversity of contents or diversity of voices. That is the availability of diverse information to the public based on the type of program as well as the content of the program (Chandrabuwono & Maulina, 2021). Another type of media diversity is based on spatial or geographical location of broadcasters (Harwood, 1962).

A democratic media and communication life needs to ensure diversity of ownership, voice, and content (Nugroho et al., 2013). In the era of the digital revolution, technological diversity also needs attention. Studying media diversity has become a significant focus in today's media landscape. Researchers anticipate that filtering algorithms and *audience* shifts from old media to new media will reduce diversity in news consumption, leading to societal polarization, the spread of misinformation, and a divided society.

The study of media diversity covers various fields, from journalism to law and computer science. However, the terms, frameworks, and measurements in operation will be very different. Loecherbach et. al. (2020) attempts to unify various theories of *media diversity* using a systematic literature review. Of the 189 studies that mentioned diversity or pluralism, 116 defined the concept. So far, there is an apparent discrepancy between empirical research (54.4% of empirical studies that provide a definition/interpretation) and theoretical research (78.2%). Therefore, the term diversity is often used without a precise definition, especially in empirical research. Raeijmaekers & Maesele (2015) call it a *buzzword*. However, several experts have also discussed whether diversity and pluralism should be considered as different concepts or interchangeable. Some experts argue that diversity measures media content, and pluralism is an ideological concept.

According to Loecherbach et. al. (2020), there are at least four normative frameworks for the concept of media diversity: *liberal aggregative*, *liberal-individual*, *deliberative*, and *adversarial*. The differences between the four normative frameworks can be seen in their focus on markets, consumers, public spaces, and alternative voices. Loecherbach et. al. (2020) also suggests that researchers should start paying attention to automated *approaches*, such as digital footprint analysis, and qualitative approaches, such as exploring differences in perceptions of diversity. In terms of analysis, balance and inequality need to be emphasized, especially when discussing possible limits to diversity. Recognizing the complexity of the discursive space, the concept of media diversity requires interdisciplinary studies in order to contribute to the sustainability of democratic media.

Media Diversity From Ecological Perspective

From an ecological perspective, variety is needed to maintain or sustain the homeostasis of ecology/ at the same time, too much variety has its own threat to the system's sustainability. Since the 1960s McLuhan has reminded us that *'the electric technology is within the gates, and we are numb, deaf, blind, and mute about its encounter with the Gutenberg technology, on and through which the American way of life was formed'* (McLuhan, 2013). By definition, McLuhan explains media ecology as follows, *"It means arranging various media to help each other so they won't cancel each other out, to buttress one medium with another"* (McLuhan & Wolfe, 2005).

Liu (2010) used media ecology theory to study the influence and function of digital television on the living environment of television media. By applying the basic analysis of equilibrium paradigm in modern economic theory, Liu emphasized the discussion of the transition of the media ecological system, which is the curve of the ecological environment of the media industry. Liu (2010) stated that digital technology shifts the television transmission patterns, *"digital technology breaks the shackles of frequency resources, providing a variety of business forms by the compression, encoding, multiplexing to information source"* (p. 768).

One of the characteristics of media ecology is the complexity of broadcast media. Wahyuni (2017) reflected the complexity and adaptive system of Indonesia Television Broadcasting. She argued that the Indonesian Broadcasting System faces a very complex environment television and their adaptive and autopoietic mechanism is still weak to cope with the challenges. The prepared system, Wahyuni (2017) added, is not reliable enough to embody community TV as a media that strengthens the public. Community media (TV) has to face serious technical problems, funding issues, and community involvement in the management. She suggested that building a robust broadcasting system needs a comprehensive view of

decision-makers communication function, growing temporal through continuous evolution and developing functions through a *process of differentiation*.

Media Diversity as an Enabling Environment for Media Sustainability

In the context of democracy, the media is a vehicle (both as a medium and form) for interaction of the community to participate in social life, nation and state. Media democratization will open up a large probability for all parties to be involved in media activities where the media is a bridge that is connected to the government, entrepreneurs, political parties, and civil society to build a sustainable and better community life.

The process of media democratization, according to Siregar (2014), was never been easy because of its complexity. Reformation movement in 1998 became a democratic milestone for Indonesia broadcasting system. Various regulations enacted to build a stronger democratic system, especially in communication and broadcasting.

In terms of democratic media system, the issue of diversity implementation was discussed as a way to measure pluralism in the digital media market. Media diversity can be seen in five levels: system, organization, production, output, and message reception (Sjøvaag, 2016). The organizational aspect shows differences in resource management, while framework conditions are considered features that explain the structural level. Diversity in reporting is part of the production aspect, while diversity in output shows the distribution and frequency of topics and sources. The actual diversity of media messages faced by the *public* is related to reception.

Discussing the relationship between democracy and the environment must comprehensively be done from both theoretical and practical perspectives. Pickering et. al. (2020) identifies four key challenges and opportunities for theory and practice: participation, populism, technocracy and expertise, governance, and ecological rights and limits. The ecological concept of democracy and the environment seeks to unite two normative principles; maintaining democracy and preserving the environment. However, these ideas are sometimes seen as contradictory because democracy is considered too slow and difficult to undertake the large-scale collective action needed to address environmental problems. Theories that address the relationship between democracy and the environment can be classified into various categories. These can range from theories of ecological democracy, which are more of a crisis to existing liberal democratic institutions, to theories of environmental democracy that push for improvements.

Applying the ecology metaphor to media can be interpreted in two complementary ways: the *media as environments* or the *media as species* that interact with each other (Scolari, 2012). Media institutions as a species experience growth from emergence to adaptation. The ability of a media institution to adapt determines whether it will change or be replaced. Scolari offered (2013) four phases of media evolution such as, emergence, dominance, survival, and extinction.

Research Methods

In this research, we will use digital-based research methods, which involve the use of digital technology (Snee et al., 2016). In collecting and processing data, we focus on *data mining*,

which involves extracting information from a large set of observed data to find unexpected patterns and relationships in the data.

According to Duque et. al. (2023) there are five main stages of *data mining*: collecting and processing data. First, data selection is a process for data discovery. Although Indonesia has long implemented the One Data Policy, data related to broadcast media has not been well integrated. We selected the data of broadcasting media institutions provided by the Indonesian Broadcasting Commission through the website <https://smiled.kpi.go.id/lembaga>. The selection of data sources is based on the assumption that (1) KPI is the regulator of broadcasting in Indonesia, so the data sourced from it is official, valid, and open to the public; (2) Utilization of open data sources has proven useful for finding unexpected patterns and relationships. Second, pre-processing is done to improve the validity of the data, i.e., the data is sorted and selected into a form that is easier to understand. Pre-processing involves transforming text prior to analysis by identifying what units of data will be used (tokenization), removing content deemed irrelevant for analysis (e.g., removing non-alphabetic characters and linking words with certain punctuation marks), combining semantically related terms to reduce data sparseness and increase predictive power (i.e., lowercase conversion, correcting spelling errors), and increasing the amount of semantic information obtained (Hickman et al., 2022). At this stage, we also re-names or re-categorizes. For example, private, public, local public and community broadcasting media types are included in the free-to-air category while all subscription broadcasting media types are included in the subscription category. Third, data transformation involves developing the best data model to obtain quality information. It is generally carried out in conjunction with the pre-processing stage. Fourth, data mining is done to see if the selected data matches the objectives defined in the previous stage. Fifth is the evaluation or interpretation of the final knowledge discovery process in the database, which determines the patterns and relationships of the resulting data processes.

In order to measure the diversity of broadcast media in Indonesia, we adopted indicators from Rodrigues et al. (2011) in categorizing broadcasters based on province, media density, network density, and the density ratio of free-to-air TV broadcasters:

Table 1: Indicators of Ecological Media Diversity

Indicator	Description
Different types of broadcasting organizations in Indonesia.	<ul style="list-style-type: none"> - Number of broadcasters by TV and Radio category - Number of private and public (both govt-owned and community) broadcasting by region - Number of free-to-air and subscription TV broadcasters
Media density	Total broadcast media by region
Network density	Ratio between the number of broadcasting network and all broadcasting institutions in the provinces suggesting the ecosystem's level of concentration
Relative density of the Free-to-Air TV Networks	Ratio between the number of free-to-air TV Networks to media density

Adapted from Rodrigues, et al. (2011).

The data used in this study are provincial data, types of broadcasting institutions, network systems, types of broadcasting, and broadcast systems.

Result and Discussion

The first step in presenting the results of these findings is to take and categorize them based on the data structure of the Indonesian Broadcasting Commission website. The data structure is a list of institution types, network systems, broadcasting types, broadcast systems, and provinces. We explain the findings in three main concepts, starting from data description to media ecology and diversity of broadcast media in Indonesia.

Table 2 shows Indonesia broadcaster's data distribution of 3408 entries.

Table 2: Data Distribution

Data	Unique Value	Non-blank record	Blank record	Total Record
Province	34	3408	-	3408
Types of Institutions	7 (Subscription, Cable Subscription, Subscription, Satellite, Community, Public, Local Public, Private)	3408	-	3408
Network System	4 (Networked, Subscription, Network Parent, Local)	3408	-	3408
Type of Broadcasting	2 (Television, Radio)	3408	-	3408
Broadcast System	5 (AM, FM, Analog, Digital, Subscription)	3406	2	3408

Different Types of Broadcasting Organizations in Indonesia

Based on the data from (<https://smiled.kpi.go.id/>), there are seven types of broadcasting institutions in Indonesia. Private institutions are the most prevalent, accounting for 2590 (76.00%) of all institutions. Other types include cable subscription (402, 11.80%), community (214, 6.28%), local public (178, 5.22%), satellite subscription (17, 0.50%), subscription (5, 0.15%), and public (2, 0.06%).

The data clearly indicates that private broadcasting institutions dominate the Indonesian media landscape, while public broadcasting institutions represent the smallest segment.

A Confused Taxonomy: The Problematic Categorization of Broadcasting Institutions in Indonesia

The categorization of broadcasting institutions in Indonesia is fraught with inconsistencies. Criteria such as access methods (subscription or free-to-air), institutional function (social, economic, cultural), and broadcast reach (community, local, national) are often used

interchangeably, leading to overlapping categories. For instance, the term "local" is applied to both network systems and institutional types.

This lack of clarity in categorization has been a longstanding issue. Since the enactment of Law No. 32 of 2002, the ambiguous definitions of broadcasting institutions have been subject to criticism. Ashadi Siregar (2005) aptly noted that the taxonomy of broadcasting media according to this law is conceptually flawed. It equates 'Public Broadcasting Institutions' with government-owned media (TVRI and RRI), while 'Private Broadcasting Institutions' are defined as commercial media. The remaining categories, 'subscription broadcasting' and 'community broadcasting', are based on technical criteria rather than fundamental differences in purpose or function. This inconsistent approach to categorization highlights a conceptual flaw in the law.

From an ecological perspective, media categories can be likened to species within a biological ecosystem. Each category, much like a species, possesses distinct characteristics and fulfills specific functions within the broader media environment. A failure to recognize these distinctions can lead to unintended consequences, such as misdirected regulation, administrative mal-practices, unfair competition, and, ultimately, the demise of certain media outlets¹.

Media Density

Media density, measured by the number of broadcast media (television and radio) within a specific area, is concentrated primarily on the island of Java. As illustrated in Figure 1, Central Java leads with 389 media outlets, followed by East Java (374), West Java (349), DKI Jakarta (240), and North Sumatra (141).

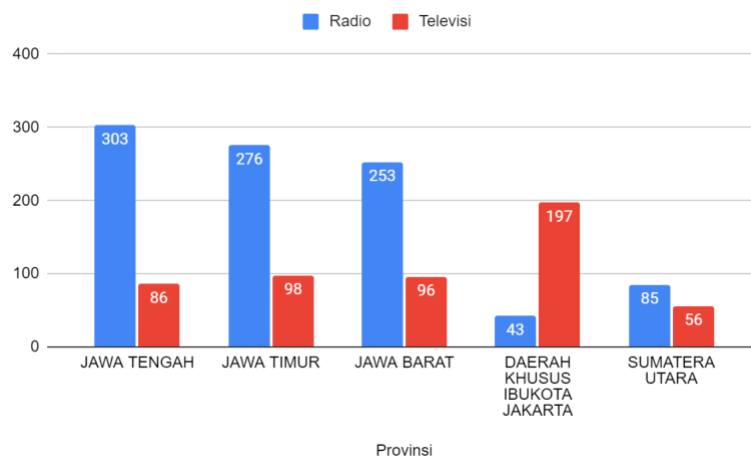


Figure 1: Top 5 Highest Media Density Provinces

A closer examination of television media reveals that DKI Jakarta dominates with 197 stations, followed by East Java (98), West Java (96), Central Java (86), and North Sumatra (56). In contrast, radio media density is highest in Central Java with 303 stations, followed by East Java (276), West Java (253), North Sumatra (85), and DKI Jakarta (43).

¹ ADiTV, a local TV station located in Yogyakarta, officially stopped operating in May 31, 2024 after almost 15 years on air due to financial issue.

Conversely, regions outside Java exhibit significantly lower media density. As illustrated in Figure 2, North Maluku, with 34 media outlets, has the lowest density. Gorontalo and North Kalimantan follow with 29 each, followed by West Sulawesi (25) and West Papua (15). For television, Maluku (21), North Kalimantan (20), West Sulawesi and Gorontalo (17 each), and West Papua (11) have the lowest density. Similarly, for radio, Maluku (13), Gorontalo (12), North Kalimantan (9), West Sulawesi (8), and West Papua (15) have the lowest density.

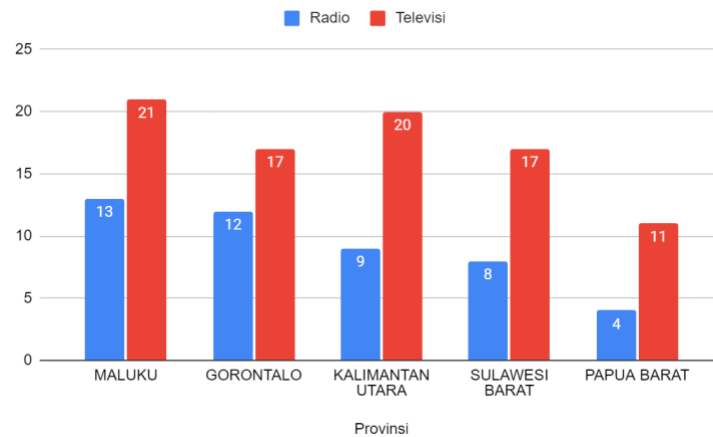


Figure 2: Top 5 Lowest Media Density Provinces

These findings underscore a significant geographical disparity in broadcast media distribution across Indonesia. Java-centric concentration limits accessibility in outer regions, particularly in Maluku, Gorontalo, North Kalimantan, West Sulawesi, and West Papua.

Network Density

This section discusses the density of broadcasting networks in Indonesia, particularly focusing on the division based on network systems (networked, network parent, and local). The data shows a high concentration in the DKI Jakarta area, especially for the network parent system. Network density provides a comprehensive overview of networked broadcasting. The following data presents the distribution of network density by province.

KPI data indicates that the nomenclature of networked and subscription media applies only to television, while radio is categorized solely as local broadcasting. The categorization of network systems by province is divided into three categories: networked, network parent, and local network. The network parent system exclusively involves television and is concentrated in specific provinces, namely Banten, Central Java, DKI Jakarta, and Lampung. Of the total networked television systems, 610 (42.96%) are classified as networked, 20 (1.41%) as network parent, and 370 (26.1%) as local. In contrast, radio is exclusively classified as local, with a total of 1988 stations. This is the reason why the number of local broadcastings is higher than others.

Table 3: Broadcasting Population by Province

Province	Local	Networked	Network Parent	Subscription	Total
Aceh	61	20		5	86
Bali	66	16		3	85
Banten	72	5	1	15	93
Bengkulu	23	14		3	40
Yogyakarta	72	13		1	86
Jakarta	103	60	17	60	240
Gorontalo	12	13		4	29
Jambi	38	14		14	66
West Java	293	44		12	349
Central Java	331	48	1	9	389
East Java	322	26		26	374
West Kalimantan	45	15		11	71
South Kalimantan	82	28		20	130
Central Kalimantan	32	12		18	62
East Kalimantan	70	26		21	117
North Kalimantan	16	9		4	29
Bangka Belitung Islands	24	14		5	43
Riau Islands	30	13		19	62
Lampung	86	14	1	4	105
Maluku	19	13		2	34
North Maluku	9	10		16	35
West Nusa Tenggara	48	12		3	63
East Nusa Tenggara	35	12		1	48
Papua	16	18		11	45
West Papua	5	5		5	15
Riau	61	14		32	107
West Sulawesi	10	7		8	25
South Sulawesi	66	15		24	105

Central Sulawesi	25	15	17	57
Southeast Sulawesi	19	12	14	45
North Sulawesi	26	15	9	50
West Sumatra	56	19	7	82
South Sumatra	82	17	1	100
North Sumatra	103	22	16	141
Total	2358	610	20	420

The data reveals a significant concentration of network systems in DKI Jakarta. Notably, the network parent system is primarily concentrated in four provinces, with DKI Jakarta hosting 17 out of the total 20 network parents. This indicates an uneven distribution of network parent systems, suggesting that their equitable distribution has not been fully realized.

Relative Density of Free-to-Air Television Networks

In 2023, Indonesia was home to 1420 television broadcasting institutions. While the KPI dataset does not explicitly categorize stations as "free-to-air," this category was derived independently based on the listed institutional types.

Table 4 presents the distribution of television broadcasting institutions by type. As shown, 70.49% of all television stations can be classified as free-to-air.

Table 4: Television Broadcasting Institutions Based on Institution Type

Types	Amount	Percentage
Subscription	423	29,51%
<i>Subscription Broadcasting Institutions</i>	5	0,35%
<i>Cable Subscription Broadcasting Institutions</i>	401	28,24%
<i>Satellite Subscription Broadcasting Institutions</i>	17	1,20%
Free-to-Air	997	70,49%
<i>Community Broadcasting Institute</i>	13	0,92%
<i>Public Broadcasting Institution</i>	1	0,07%
<i>Local Public Broadcasting Institutions</i>	19	1,34%
<i>Private Broadcasting Institutions</i>	964	67,89%
Total	1420	100%

When cross-tabulated with network systems, the data in Table 5 reveals that the majority (61%) of free-to-air television stations operate within a networked system, while 37% are local stations, and 2% are network parents.

Table 5: Number of Free-to-Air TV Based on Network System

Network System	Count	Percentage
Networked	609	61%
Local	368	37%
Network Parent	20	2%
Total	997	100%

It is also noteworthy that several provinces reported having neither public nor community broadcasting institutions. This implies that commercial broadcasting is the sole form of media operation in these areas. Furthermore, some provinces, including Bengkulu, Gorontalo, Central Kalimantan, Bangka Belitung Islands, North Maluku, Papua, West Papua, Central Sulawesi, Southeast Sulawesi, and West Sumatra, exhibit a network density ratio between 0.8 and 1 (see Figure 3). Assuming that networked free-to-air television stations rely on a parent network, this indicates that most of the information disseminated through television broadcasts in these regions originates from Jakarta or nearby areas.

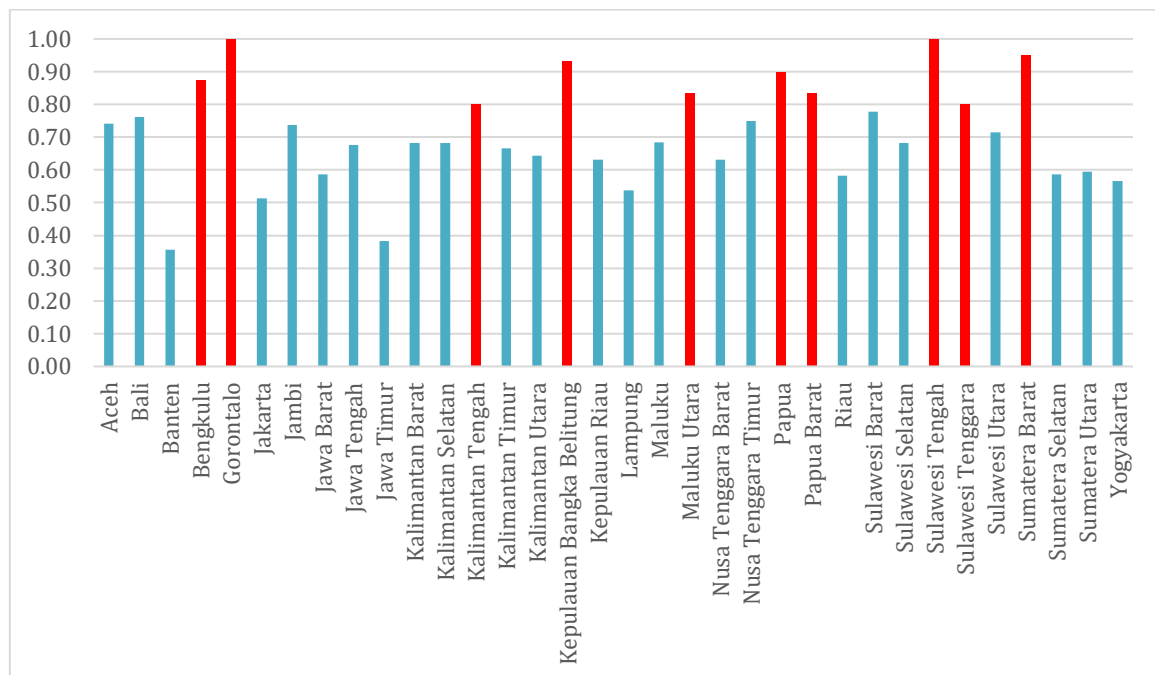


Figure 3: Network Density of Free-to-Air Television

These findings indicate that free-to-air television plays a dominant role in Indonesia's broadcasting landscape, accounting for 70.49% of all television stations. Furthermore, the prevalence of networked systems among free-to-air stations suggests a high degree of interconnectedness within the industry.

Community Media: An Endangered Species in the Media Ecosystem

This section discusses community media from a media ecology perspective, emphasizing the importance of community media in a democratic context and highlighting threats to its sustainability.

Technically, community broadcasting stations are low-power, open broadcast systems designed to serve a localized audience, often referred to as narrowcasting (Siregar, 2005). The existence of community broadcasting is crucial in a democratic context, given their distinct value orientation compared to commercial broadcasting. From a normative democratic perspective, community media represent an extension of citizens' right to freedom of expression, ensuring diversity of content.

KPI data reveals that there are only 214 community broadcasting stations distributed across 26 out of 34 provinces in Indonesia. As illustrated in Figure 4, community radio stations dominate, with 201 in operation, while community television stations number only 13 and are present in just 7 out of 34 provinces.

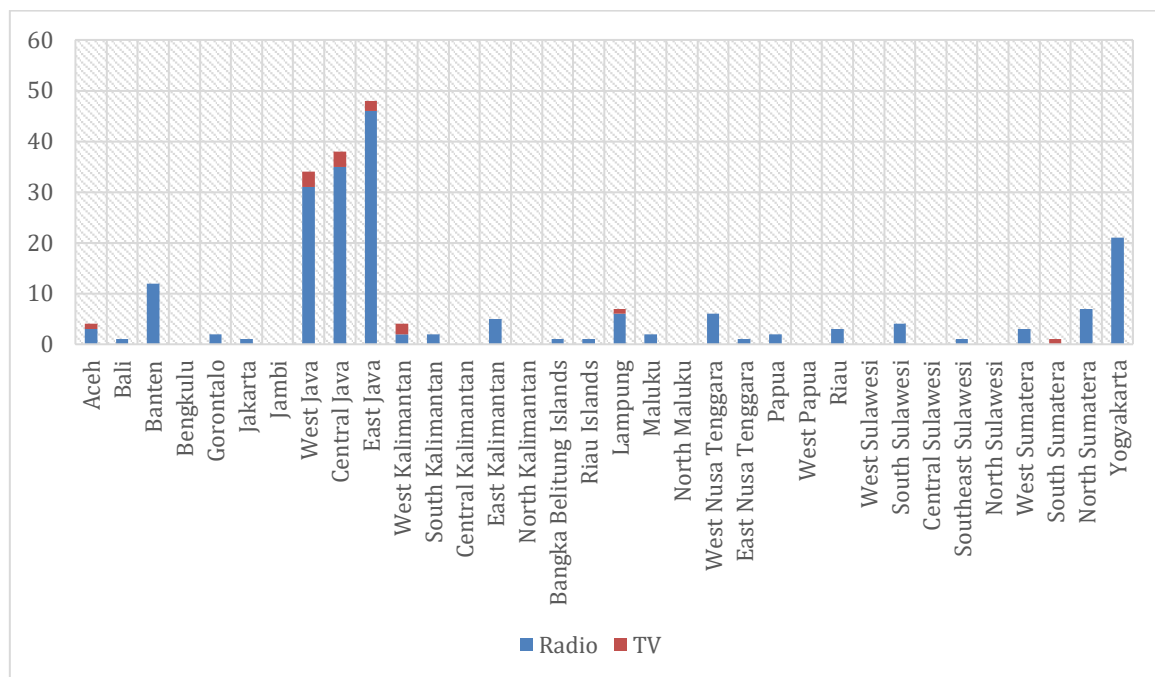


Figure 4: Community Broadcasting by Province

Moreover, 7 out of 13 (53%) of community television stations are operated by educational institutions. This is disproportionate to the number of broadcasting-related study programs in Indonesia, which exceeds 226². Therefore, echoing Wahyuni's suggestion (2017) to develop functional media through a differentiation process is something worth doing.

Conclusion

This study aims to see the diversity of broadcasting media based on the data structure of the Indonesian Broadcasting Commission which includes types of institutions, network systems, types of broadcasting, broadcast systems and provinces from a total of 3408 broadcasting

² Indonesia Higher Education Database (PDDIKTI).

institution data entries in Indonesia, it was found that the operationalization of the diversity of broadcasting media that can bridge public and industrial interests is still dominated by private broadcasting media institutions. There is confusion in the categorization of broadcasting institutions, for example based on access methods, nature and function and coverage of broadcast areas. Community broadcasting institutions have an important existence in the context of democracy.

The noteworthy finding of this KPI's data is that the digital broadcasting migration policy is more oriented towards technological and economic imperatives. The promise of expanding free-to-air digital terrestrial broadcasting channels by government was not delivered to community broadcasters, especially educational institutions whose broadcasting or media programs.

This fact also indicates the neglect of stakeholders towards improving the skills and competencies of human resources which are needed for the survival of the broadcasting industry itself. The lack of broadcasting technology infrastructure managed by educational institutions causes the gap between theoretical and practical competencies to widen. In other words, the government's policy of providing a portion of digital television broadcasting channels for economic purposes makes the ecology of the broadcasting industry unhealthy.

Media diversity when viewed from the density of media and networks cannot yet be said to be diverse because the concentration of broadcasting media, both TV and radio, is still dominated on the island of Java, especially in the capital city area. So that the equality of media and broadcasting diversity has not been met.

References

- Aliansi Jurnalis Independen. (2021). *Upah Minimum 2022 Tak Berpihak ke Pekerja Media, Bisa Berdampak ke Publik* [Press Release]. Aliansi Jurnalis Independen (AJI). <https://aji.or.id/informasi/upah-minimum-2022-tak-berpihak-ke-pekerja-media-bisa-berdampak-ke-publik>
- Armando, A. (2014). The greedy giants: Centralized television in post-authoritarian Indonesia. *International Communication Gazette*, 76(4–5), 390–406. <https://doi.org/10.1177/1748048514524106>
- Chandrabuwono, A. B., & Maulina, N. (2021). Ekologi Media Televisi Swasta Berdasarkan Program Informasi Lokal Di Kalimantan Selatan. *Prosiding Seminar Nasional Lingkungan Lahan Basah*, 6.
- De Biase, L. (2017, June 3). *Fake news is a media ecology problem*. The OECD Forum Network. <https://www.oecd-forum.org/posts/17511-fake-is-a-form-of-pollution-in-the-media-ecology>
- Duque, J., Silva, F., & Godinho, A. (2023). Data Mining applied to Knowledge Management. *Procedia Computer Science*, 219, 455–461. <https://doi.org/10.1016/j.procs.2023.01.312>
- Dwi, A. (2023, July 1). Daftar Perusahaan Media Cetak di Indonesia yang Berhenti Terbit. *Tempo.Co*. <https://www.tempo.co/ekonomi/daftar-perusahaan-media-cetak-di-indonesia-yang-berhenti-terbit-171334>
- Harwood, K. (1962). The ecology of broadcasters in the United States. *Journal of Broadcasting*, 6(3), 221–228. <https://doi.org/10.1080/08838156209386014>
- Hickman, L., Thapa, S., Tay, L., Cao, M., & Srinivasan, P. (2022). Text Preprocessing for Text Mining in Organizational Research: Review and Recommendations. *Organizational Research Methods*, 25(1), 114–146. <https://doi.org/10.1177/1094428120971683>
- Kholik, K. (2021). Peran Media Penyiaran di Era Revolusi Industri 4.0. *Jurnal SOMASI (Sosial Humaniora Komunikasi)*, 2(1), Article 1. <https://doi.org/10.53695/js.v2i1.434>
- Liu, L. (2010). *Digital Television's position and effect in the media ecology environment of broadcast and television*. 9, 766–769. Scopus. <https://doi.org/10.1109/ICCSIT.2010.5564539>
- Loeberbach, F., Moeller, J., Trilling, D., & van Atteveldt, W. (2020). The Unified Framework of Media Diversity: A Systematic Literature Review. *Digital Journalism*, 8(5), 605–642. <https://doi.org/10.1080/21670811.2020.1764374>
- Masduki, & d'Haenens, L. (2022). Concentration of Media Ownership in Indonesia: A Setback for Viewpoint Diversity. *International Journal of Communication*, 16(0), Article 0. <https://ijoc.org/index.php/ijoc/article/view/17769>

- McLuhan, M. (2013). *Understanding Media: The Extensions of Man* (W. T. Gordon, Ed.). Gingko Press. <http://public.eblib.com/choice/publicfullrecord.aspx?p=1222206>
- McLuhan, M., & Wolfe, T. (2005). *Understanding me: Lectures and interviews* (S. McLuhan, Ed.; 1. MIT Press paperback ed). MIT Press.
- Nugroho, Y., Siregar, F., & Laksmi, S. (2013). *Mapping Media Policy in Indonesia*. Centre for Innovation Policy and Governance. <https://cipg.or.id/wp-content/uploads/2015/06/MEDIA-1-Media-Policy-2012.pdf>
- Pickering, J., Bäckstrand, K., & Schlosberg, D. (2020). Between environmental and ecological democracy: Theory and practice at the democracy-environment nexus. *Journal of Environmental Policy & Planning*, 22(1), 1–15. <https://doi.org/10.1080/1523908X.2020.1703276>
- Plaisance, P. L. (2005). The Mass Media as Discursive Network: Building on the Implications of Libertarian and Communitarian Claims for News Media Ethics Theory. *Communication Theory*, 15(3), 292–313. <https://doi.org/10.1111/j.1468-2885.2005.tb00337.x>
- Prabowo, A. (2012). Era Penyiaran Digital: Pengembangan atau Pemberangusan TV Lokal dan TV Komunitas? *Jurnal ASPIKOM*, 1(4), Article 4. <https://doi.org/10.24329/aspikom.v1i4.27>
- Raeijmaekers, D., & Maesele, P. (2015). Media, pluralism and democracy: What's in a name? *Media, Culture & Society*, 37(7), 1042–1059. <https://doi.org/10.1177/0163443715591670>
- Rianto, P., Wahyono, S. B., Yusuf, I. A., Zuhri, S., Cahyono, Moch. F., Rahayu, Masduki, & Siregar, A. E. (2012). *Digitalisasi Televisi Di Indonesia: Ekonomi Politik, Peta Persoalan, Dan Rekomendasi Kebijakan*. PR2Media: Yayasan Tifa.
- Rodrigues, M. A. D. S., Chimenti, P. C. D. S., & Nogueira, A. R. R. (2011). The convergence challenge: An analysis of the ecosystem of free-to-air TV in Brazil. *Revista de Administração*, 61–72. <https://doi.org/10.5700/rausp0998>
- Scolari, C. A. (2012). Media Ecology: Exploring the Metaphor to Expand the Theory. *Communication Theory*, 22(2), 204–225. <https://doi.org/10.1111/j.1468-2885.2012.01404.x>
- Scolari, C. A. (2013). Media Evolution: Emergence, Dominance, Survival and Extinction in the Media Ecology. *International Journal of Communication*, 7(0), Article 0. <https://ijoc.org/index.php/ijoc/article/view/1919>
- Simamora, J., Yuniarso, S. W., & Pamungkas, S. (2022). Analisis Faktor Penghambat Analog Switch Off (ASO) Ke Televisi Digital Di Indonesia Dari Perspektif Mediamorphosis. *The Source: Jurnal Ilmu Komunikasi*, 4(2), Article 2. <https://doi.org/10.36441/thesource.v4i2.1458>

Siregar, A. (2005, July 18). *Strategi Pengelolaan Televisi Kampus*. Workshop Strategi Pengelolaan Televisi Kampus, Fakultas Seni Media Rekam Institut Seni Indonesia Yogyakarta. <https://ashadisiregar.files.wordpress.com/2008/08/strategi-pengelolaan-tv-kampus.pdf>

Siregar, A. E. (2014). *Mengawal demokratisasi media: Menolak konsentrasi membangun keberagaman*. Penerbit Buku Kompas.

Sjøvaag, H. (2016). Media diversity and the global superplayers: Operationalising pluralism for a digital media market. *Journal of Media Business Studies*, 13(3), 170–186. <https://doi.org/10.1080/16522354.2016.1210435>

Snee, H., Hine, C., Morey, Y., Roberts, S., & Watson, H. (Eds.). (2016). *Digital Methods for Social Science*. Palgrave Macmillan UK. <https://doi.org/10.1057/9781137453662>

Wahyuni, H. I. (2017). Complexity and Adaptive System of Television Broadcasting: The Reflection of Autopoetic Mechanism of Indonesian Television Broadcasting System. *Jurnal Ilmu Sosial Dan Ilmu Politik*, 20(3), 189. <https://doi.org/10.22146/jsp.27204>

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