The Impact of Digital Literacy in Digital Radio Transformation at Indonesia

Harliantara[1], Denny Jan Sompie[2], Deni Mulyanadi[3], Nurannafi Farni Syam Maella[4], Zulaikha[5]

Abstract

The intense competition among Indonesian radio stations in the digital era can be attributed to the advancements in information and communication technology. Both directly and indirectly, the radio industry is facing increased competition from new media, including cellular networks and the internet, both directly and indirectly. Due to intense rivalry, radio stations must produce a distinctive line of digitally based radio shows with highly creative human resource performance. The success of radio broadcasting stations in the future is greatly dependent on this digital creativity. However, it is not a simple task to enhance the competency of creative human resources that are digitally based.Research indicates that a person's capacity to actively participate in the learning process at both the individual and team levels affects how creatively they perform. In this era of convergence, literature advises applying learning through the development of digital literacy in the face of media rivalry. This study suggests the skills that individuals should develop for digital literacy-based creative performance.This research employs a qualitative methodology, gathering data via interviews, documentation studies, and field observation. This study demonstrates how digital literacy will have a significant impact on radio broadcasting's existential role in the convergence era. To promote the existence of digital-based radio broadcasting, radio broadcasting organizers should start a digital transformation to create a highly competitive broadcasting institution.

Keywords: *Digital Transformation, Digital Literation, Radio, Convergence*

Introduction

Acquiring new technology competencies is critical for the digital transformation process. It's insufficient, though. Motivating staff members to use their abilities to generate new opportunities is important.(Crowston & Malone, 1988; Neeley & Leonardi, 2022) The 21st century is different from the previous century in many ways. Digital technologies are growing at a pace never seen before, and in one way or another, everyone is part of the change. (Suryanegara et al., 2023; Freeman, 1986)Living in a digital media environment is changing much more than the technology we use for business. That has changed our relationship with time, which has had a huge impact on our business, economy, and customers. (Rushkoff, 2013). The industrial age is over, "out of energy," and with a new era comes a new change (Perez, 2002). All of these changes start with the most recent revolution, the digital revolution.

The development of the radio broadcasting business's income in the last 20 years has not changed significantly, but advertising revenue continues to decline. This is due to the discovery of internet media, which allows the creation of new digital-based media. However, radio managers still maintain their radio stations by adjusting and adapting to using internet media (online) as a complement to live streaming or by creating digital content to retain their audience, which now has a new habit of using internet and mobile media technology. As a result, radio broadcasting business managers have begun to consider new technologies and adopt a digital mindset in order to maintain their business.

The digital age has forever changed the way we live, work, and compete in the world of radio broadcasting. The development of new technologies makes it increasingly clear that we must change how we manage today's radio broadcasting stations in a new way. Further, we should develop new and different skills and perspectives to engage and support a flexible response to this community change. In the face of competition, radio stations must create unique products, namely digital-based radio broadcast programs, because of their high creative human resource performance. This digital creative performance is critical to business success at every radio broadcasting station.

Digital Mindset

The assumptions, convictions, and values that shape people's perceptions of and interactions with others, as well as their relationship with the outside world, are collectively referred to as the "digital mindset." (Mezirow, 2000). There has never been more demand to "be digital" than there is now, yet we can overcome those obstacles. The digital revolution has changed the operations of industries, the completion of occupations, and the interactions, work, and behavior of individuals from all walks of life.(Sima, 2020) We need to adapt our perception, thinking, and behavior if we want to survive in a world that is algorithm-driven and data-driven. We must cultivate a digital mindset. Many people are concerned about this digital world because we all understand the nuances of code, algorithms, artificial intelligence, machine learning, robotics, and more as engineers. However, that is untrue. Collaboration, computing, and change—as well as viewpoints and activities in each approach that enable us to acquire the necessary digital abilities—can help us cultivate a digital mindset. If we adopt a digital mindset, we will ask the right questions, make wise choices, and recognize new opportunities for the digital future. Leaders are using this strategy to build their organizations and prepare their businesses for a successful, ongoing digital transformation. (Neeley & Leonardi, 2022)

Media Studies

In fact, the field of "Media Studies" has become far more unclear as the current transition that it studies has made the subject of its study much more questionable. Traditionally, people have associated the word "media" with the concept of "mass media," which encompasses the field of "mass communication." (Holmes, 2005)

The Historical Distinction Between The First and Second Age	
First Media Age (Broadcast)	**Second Media Age (Intercativity)**
Centered (few speak to many)	Decentered (many speak to many)
One-way communication	Two-way communication
Predisposed to state control	Evades state control
An instrument of regimes of Stratification and inequality	Democratizing: facilitates universal citizenship
Participations are fragmented and Constituted as a mass	Participants are seen to retain their individuality
Influence consciousness	Influences individual
	Experience of space and time

Figure 1.
Source: Holmes, 2005, Communication Theory, Media, Technology, and Society.

Radio maintainers are now required to be individuals with interdisciplinary skills, qualities, and dispositions to work in the increasingly complex and digital radio industry. This requires competence that includes a breadth of knowledge about information and communication technology (ICT), the internet, media, and digital literacy. Digital technology has reshaped the nature of future jobs and labor. The extant literature on the development of a digital mindset identifies the importance of certain knowledge, skills, and attitudes combined with certain behaviors and ways of thinking. The results of this research will explain how to develop a digital mindset for radio station managers.

Method

This research uses a qualitative approach with data collection techniques conducted through field observations, interviews, and documentation studies. We purposefully selected interviewees with specific considerations and objectives. Researchers use qualitative data analysis, gather data from various sources using different data collection techniques (triangulation), and continue the process until data saturation is achieved. Researchers also analyze data by arranging the order of the data, organizing it with interpretation, giving significant meaning to the analysis, and explaining the dimensional patterns of the description. During the process, data analysis methodologies involve three systematic parts of analysis: data reduction, data display, and conclusion drawing.

Result and Discussion

All industrial sectors that need to be a part of Indonesia's digital ecosystem—including radio broadcasting—need to prioritize digital transformation. The number of people worldwide with internet access has surpassed 5,03 billion (We Are Social, 2022); about 210 million people live in Indonesia (APJII, 2022); during the 2021–2022 era, internet penetration in Indonesia was 77.02% (APJII, 2022). The digital age has significantly transformed how work is conducted, how the industry is organized, and how people cooperate. We will now operate under a new paradigm known as digital. It's difficult to train ourselves out of this outdated mindset. A shift to a digital mindset can often be more difficult than continuing with past achievements that have come and gone. Developing radio broadcasting within the context of the digital revolution is essential to fostering inclusion, generating new ideas, and boosting radio creative productivity. The digital society directly impacts the economy.

Digital Transformation & Literacy

Knowledge literacy, internet literacy, web literacy, and digital literacy are all necessary for the process of becoming digitally literate., according to Allen (2016) and Ayhan (2016) in the article Developing Digital Literacy Skills Through Guided Reading Instruction, The Florida Reading Journal. Each stage of the process matters. Utilize them in tandem when digitizing. Simultaneously, digital literacy gains its place as a systemic prerequisite. Digital literacy is necessary for the development of large-scale technologies and structures.
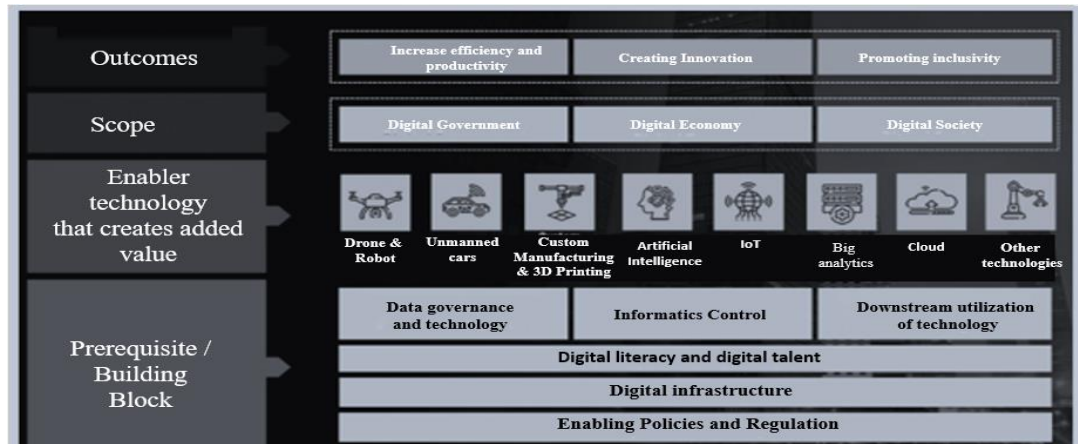
Indonesia's Digital Transformation Framework

Figure 2.
Source: (2022) Digital Leadership Academy Debriefing Materials of Kemenkominfo Ri.

According to Lee, John (2010) Journal of American History, digital history is a method of studying and portraying the past that makes use of contemporary communication technology, including computers, internet networks, and software. Digital history facilitates scientific production and communication by enabling the creation of new materials and the gathering of scientific data, among other things. However, this is a methodical methodology that has historically been used to define, create, ask questions, and generate human records within the framework of hyper textual power technology. Therefore, digital history is the use of technology to create an ontology—a framework—that allows readers to experience, comprehend, and follow debates regarding historical topics.

One of the distinctive features of digital history is its simplicity of use, which is connected to democratization. Furthermore, the democratization of the audience has not coincided with the history of democratization over the last few decades; perhaps the digital world's tools can bridge this gap. This is explained by Ayers, E.L. (1996) in The Pasts and Futures of Digital History in Lee, John (2010) in his article Digital History and the Emergence of Digital Historical Literacy." Digital technology work is often associated with creative and enthusiastic energy and appears limitless. A lot of digital learning is introduced into a human life laboratory by this online environment. In the articles Literacy, Literacy, and the Digital in Higher Education, Good fellow (2011). Digital literacy is a new information and communication media activity in computer mediation (online, network, web-based) that can be accessible anywhere, according to Ayhan (2016) Teaching in Higher Education.

As a result, radio managers must undergo a transformation in order to make significant progress toward digital literacy.(Crowston & Malone, 1988) They also need to acquire the unique skills necessary to succeed in the digital world, which are already prevalent in modern life and will only grow more so as information, communication, and technology advance. On Indonesia's digital roadmap, radio broadcasting joins the media and entertainment industries. With a compound annual growth rate (CAGR) of 24.7%, the global digital transformation market is expected to reach US$1,178.30 billion in 2022. By 2026, it is expected to reach 2,643.53 with a CAGR of 22.4%. (2022) The Business Research Company The digital economy has expanded 2.5 times faster than the global GDP in the last ten years. (World Bank, 2022)
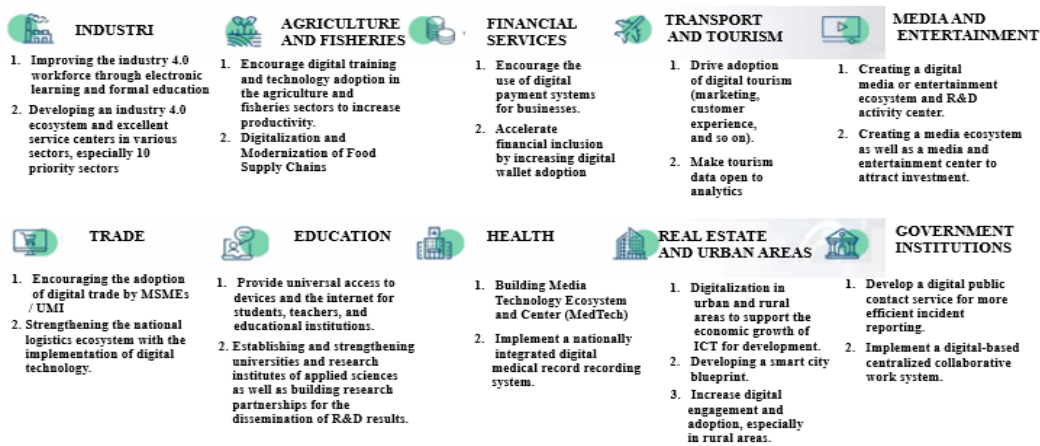
Figure 3.
Source: (2022) Digital Leadership Academy Debriefing Materials of Kemenkominfo Ri

Convergence

This new era also has an impact on life in the media environment, which is changing rapidly. Just a few years ago, most people had never heard of multimedia or the internet. There are many forms of change that occur in the media environment. The term convergent media, as it is commonly known, is used to mean that services that were once separate, including the internet, television, radio, cable, and telephone, can now be combined. This happens because one of the causes of media convergence is a technical problem, which is that more media content is included in digital format. One of the dominant trends in electronic media in the last 20 years has been convergence. Convergence also refers to the blurring of boundaries between different types of electronic communication media, such as voice telephones and online services, that have traditionally been different. By using different methods and formats that relate to audiences such as radio, telephone, and computer. In addition, it can use various media simultaneously on more than one device. In other words, when connected to the internet via a broadband connection, some activities can be done, such as listening to online radio stations, taking emails, listening to music, downloading, or using instant messages to have conversations (including audio and video) with people anywhere in the world.

Convergence is a general term that refers to new textual practices, branding and marketing strategies, industry settings, technological synergy, and audience behavior activated and driven by the emergence of digital media. (Kackman, 2011) Understanding convergence can be challenging due to its various contexts and often confusing definition. Convergence from a journalistic perspective is the practice of sharing content and promoting it through various media, interactively, through newsroom collaboration and partnerships. According to Wirtz (1999), a definition that focuses on multimedia applications states that convergence can be defined as a dynamic approach or partial integration of different communication and information-based applications. A further aspect of convergence is that it brings products and services to additional consumer satisfaction and some multimedia content.

Analog and Digital Terrestrial Radio

Information and communication technology today greatly affects many aspects of human life, including the management of radio broadcasters. With the Internet, the social and economic impact caused by human activities entering new instruments and processes in radio broadcast is a phenomenon. (Ismandianto et al., 2022)The use of information and communication technology in carrying out the broadcast radio management process requires new thinking about the current phenomenon. The power of technology in radio affects the occurrence of new changes in the nature of the environment of radio broadcasting management, audiences, and regulations. (Vasudevan, 2023)

In the last two decades, the broadcast technology revolution has been rapid, characterized by the integration of terrestrial analogue broadcasts with digital (convergence): internet, satellite, mobile, and social media (YouTube, Facebook, Instagram, and Twitter). The integration of broadcasts through application media (Whats App) provides a breath of fresh air as well as challenges. (Gazi, 2011). Both AM and FM radios could formerly only transmit voice (audio) services; however, they may now simultaneously transmit data and images in addition to other services. News, picture-rich reports on accidents and traffic bottlenecks, information on new movie releases, activity listings, weather updates, game services, and more may all be found on the service. This allows the radio to become a true "personal device" with all the entertainment elements integrated. You can obtain far better audio services as well as a few extra options and service settings on an individual and autonomous basis. This is made possible by digital radio technology. A subset of radio technology known as "digital radio" uses digital signals to send data. A few advantages of digital radio include higher signal quality, clearer audio than analogue radio, and interesting capabilities like the capacity to pause, remember, or momentarily store a recording for subsequent listening. (Harliantara, 2021)
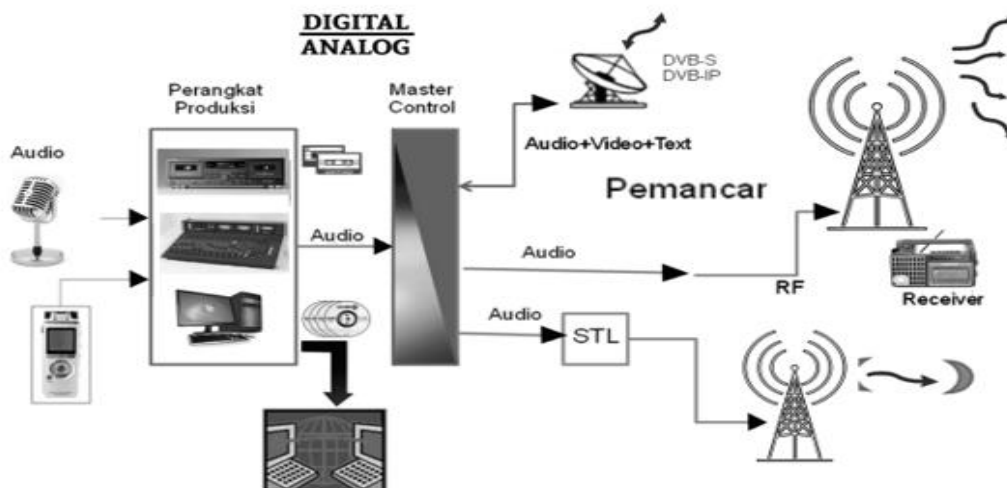
Radio Broadcasting Device System

Figure 4.
Source: Harliantara, (2021), Radio Indonesia Dulu, Kini, Dan Nanti.

The objective of further radio digitization is to ascertain the efficiency of spectrum frequency, network transmission, transmission power, and consumption power. It is also possible to recover against transmission interference (error correction), improve compatibility in the form

of interoperability signals, and develop ubiquitous devices as the receiving plane. Furthermore, increased scalability from mono and stereo to high-quality audio in the style of AES-EBU (Audio Engineering Society-European Broadcasting Union) and even HD (high definition) radio is achieved. As a result, the signal quality and stability are improved and it is free from interference, noise, and fading.

When it comes to the quality of the audio signal emitted and the affordability of the receiving device, FM technology is thought to be a very mature and nearly perfect technology. This makes the migration to digital an option in the radio industry, unlike the TV industry where it is both imperative and required. The euphoria of regional autonomy and the overlap of the jurisdiction of the central government (Kemenkominfo), the regional government (Department of Transportation), and KPI (Indonesian Broadcasting Commission)/KPID (KPI-Region) are the main factors driving the urgency of this digital radio's development in Indonesia. This resulted in multiple requests for approval to start radio transmission in different parts of Indonesia. One frequency channel with the same width as one analogue radio channel can carry more broadcast programs, hence employing frequency channels more efficiently with digital radio technology will be possible. Furthermore, the advent of digital broadcasting systems will play a major role in facilitating the multimedia convergence era. This will enable radio broadcast organizers to send their programs more easily and affordably by using transmission network providers (Network Providers), eliminating the need for them to plan and construct their own transmission network infrastructure, including FM transmitters, transmitter towers, transmission channels, and antennas. Said another way, shared infrastructure is made possible by digital radio.
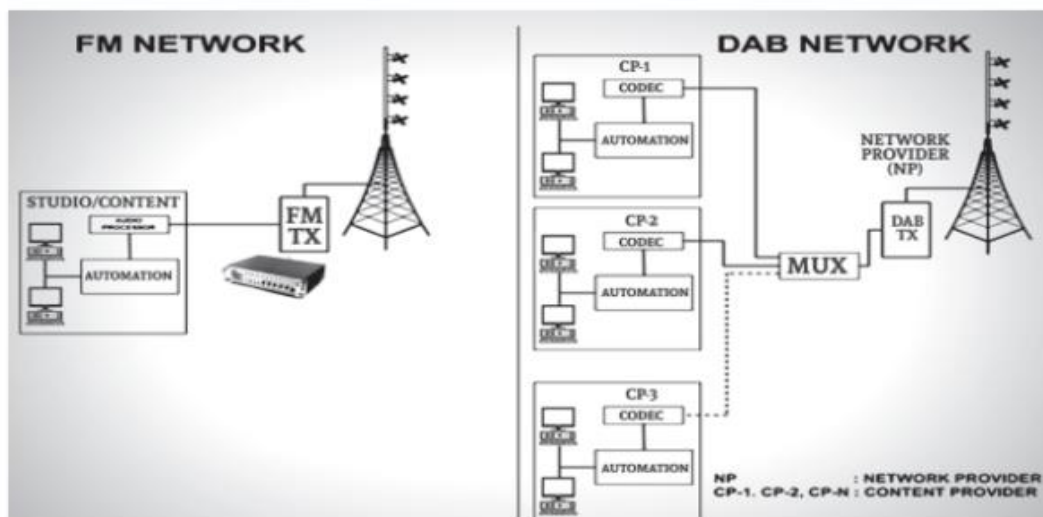
FM Radio Broadcast and Digital (DAB)

Figure 5.
Source: Harliantara, (2021), Radio Indonesia Dulu, Kini, Dan Nanti

Digital Radio Standard in Indonesia

After conducting a series of tests of existing digital radio technology such as IBOC conducted in Jakarta and Surabaya (Radio Sangkala) and DAB (DAB+) carried out by FRJII (Indonesian Network Radio Forum) and RRI and evaluating the results, Indonesia finally determined in

2009 through Kominfo that the digital radio technology used in Indonesia is the DAB family, which is strengthened by the Regulation of the Minister of Communication and Information No. 21 of 2009 concerning Digital Broadcasting Standards for radio broadcasting on the Very High Frequency (VHF) band in Indonesia. In fact, the DAB family is considered more suitable than other technology standards for Indonesia. IBOC HD-Radio technology is considered less suitable because currently the frequency range between FM radio stations used is 350KHz, while IBOC absolutely requires a frequency range as wide as 400KHz to be able to place its digital signal on analog FM channels (in band) in the upper and lower bands. Meanwhile, ISDB-T is unsuitable because the receiving device is very expensive.
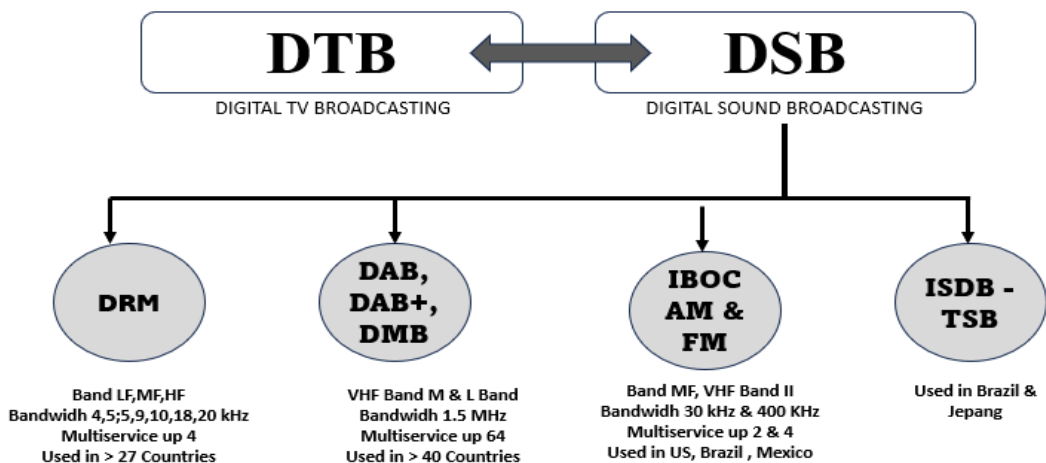
Digital Radio Broadcast Scheme

Figure 6.
Source: Harliantara, (2021), Radio Indonesia Dulu, Kini, Dan Nanti.

The Ministry of Communication and Information Technology issued Decree Number 847 of 2012 concerning the Digital Radio Broadcasting System Test Team in order to initiate a second procedure. Up to now, testing and implementation—particularly by RRI—have persisted. RRI implements a 2.5 Kw power transmitter with a power output of > 2400 watts and a frequency range of 124–240 MHz, also known as Band III.A multiplexer and encoder are naturally included in the vertically polarized six-bay VHF Band III dipole antenna, which has an antenna gain of greater than eight decibels. The "headquarters" of RRI, located in the Merdeka area in Central Jakarta, houses all of this equipment. The building's height is included in the antenna height of 124 meters. RRI displays eight channels at frequencies of 128 kbps and 229.072 MHz (12D) with the help of currently available devices. Channel 1 is Pro.1, Channel 2 is Pro.2, Channel 3 is Pro.3, Channel 4 is Pro.4, Channel 5 is VOI, Channel 6 is Channel 5, Channel 7 is Classical Music, and Channel 8 is Keroncong Music are among the eight channels. Later, LPP RRI Jakarta Station launched the debut of Digital Audio Broadcasting Plus (DAB+) in March 2016 with the opening of media convergence studios, visual radio media, and DABRRI channel optimization.

Additionally, RRI ran a DAB+ digital radio transmitter in Jakarta. At the RRI Building in Medan Merdeka Barat Jakarta, the inauguration was conducted by R. Niken Widiastuti, Director General of Information and Public Communication (IKP) of the Ministry of Communication and Information (Kemenkominfo). RRI experimented with DRM in addition

to DAB+, which could be utilized as a "complement" to the previous DAB+. At the Asia Pacific Broadcasting Union (ABU) convention, RRI reaffirmed this by signing a collaboration agreement with the DRM Consortium in Radio Indonesia: Past, Present, and Later 113 transmissions.(Baek et al., 2013a) On Wednesday, October 28, 2015, in Istanbul, Turkey, the President and Director of LPP RRI (at the time), Niken Widiastuti, and the Chairman of the DRM Ruxandra Obreja Consortium signed the agreement. Following that, we worked with other universities on a few trials and reviews. For instance, in July 2020, assess the effectiveness of the Digital Radio Mondiale (DRM) technology trial and measurement in the Pelabuhan Ratu region of Sukabumi, West Java, in collaboration with the Ministry of Communication and Information.(Baek et al., 2013b, 2013a; Evens, 2020; Lax et al., 2008; O'Neill, 2009)

Technology. With continued trials and the implementation of the technology, it is hoped that there will be advantages for service providers and advertisers; among others, they will obtain alternative content formats and types of ads that are more innovative, varied, flexible, informative, and can optimize connections and communication with their listeners, so that the radio function is expected to be a 'mass communication' medium to be more viscous and optimal. Overcoming technical, content, business models, and receiving devices (receivers) is essential to fully benefit from the presence of digital radio (DAB+) in Indonesia, given the need for special devices for this technology. If this can be resolved well, of course Indonesia can also catch up with Australia, which also has a period of starting digital radio technology that is the same as Indonesia and is currently successfully adopting digital radio technology (DAB+). 3.4. Internet Radio Computer users around the world have embraced the internet and the web because they work together as a single system that can be used from any computer platform. The internet enables every business application that involves data communication, including communication within the company and with the environment. (McLeod Jr., 2008)
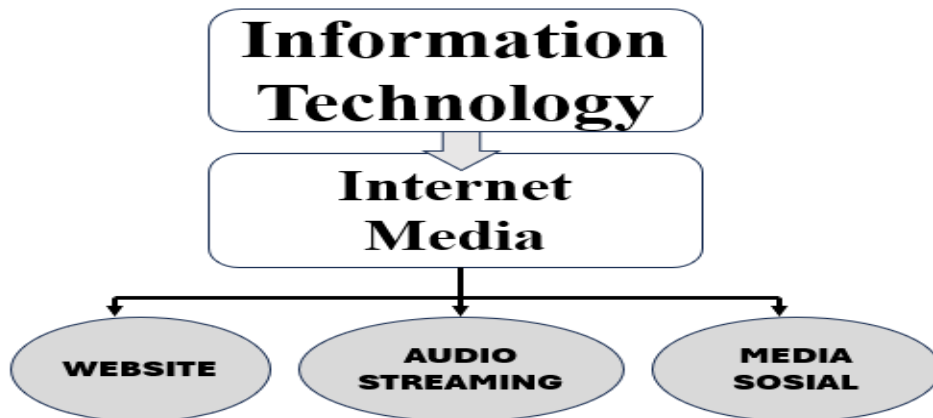
.Internet Radio Broadcast

Figure 7.
Source: Harliantara, (2021), On Air to Online

Many radio broadcasters have adjusted to innovation in this internet media era by distributing radio broadcast products not only through conventional media services (frequency) but also through internet media services (online radio). In this condition, radio broadcasters distribute radio broadcast products by combining services (co-exist), namely conventional media services and internet media services, with their listeners. (Harliantara, (2016)

About three decades ago, the choice of listening to the radio only had to be at home by rotating the waves and listening to the radio-on-radio planes or radio facilities on stereo sets such as mini or midi compo and carrying small radios for those who wanted to listen in motion. However, since the 1990s, when the internet began to be known and brought a great deal of change to various aspects of life, including the radio world, the technology has continued to be explored. Every week, a computer professional was interviewed on Internet discussion Radio (Clark Malamud, 1993), the first radio discussion shows devoted to computers. At the time, internet radio was still a concept under discussion. Up until the end of 1993, Internet Talk Radio was available as voice data that computer users could download one at a time. Multicast streaming is a system that uses the most effective method to send messages to connections that were addressed in a single send while simultaneously sending data to predefined destinations. present RTFM, a multicast internet radio news service from Para-Internet Service. By the end of 1994, it was decided to adopt multi-casting. A live voting stream from Senate and Parliament meetings and hearings was featured on RTFM news in January 1995. WXYC (FM 89.3) Chapel Hill, North Carolina, USA) became the first traditional radio station to announce on November 7, 1994. WXYC (FM 89.3) On November 7, 1994, was the first conventional radio station in the United States to make an announcement. that it will be moving its transmission online. WXYC employs FM radio that is connected to the Sun site's Ibibio system, which at the time was using Cornell's CU-See Me software. Early in August 1994, WXYC started transmitting after conducting a bandwidth test. On the same day, WREK (91,1 FM, Atlanta, GA, USA) and NM3151 began broadcasting using their exclusive Cyber Radio 1 software. Compared to WXYC, the WREK channel is not marketed, which explains why there is a lesser degree of public response. Virgin Radio, a London-based station, was the first in Europe to fully transmit traditional radio shows on internet radio in March 1996. This broadcast uses an FM frequency to broadcast live online 24 hours a day. Internet radio drew the attention of both investors and the media.

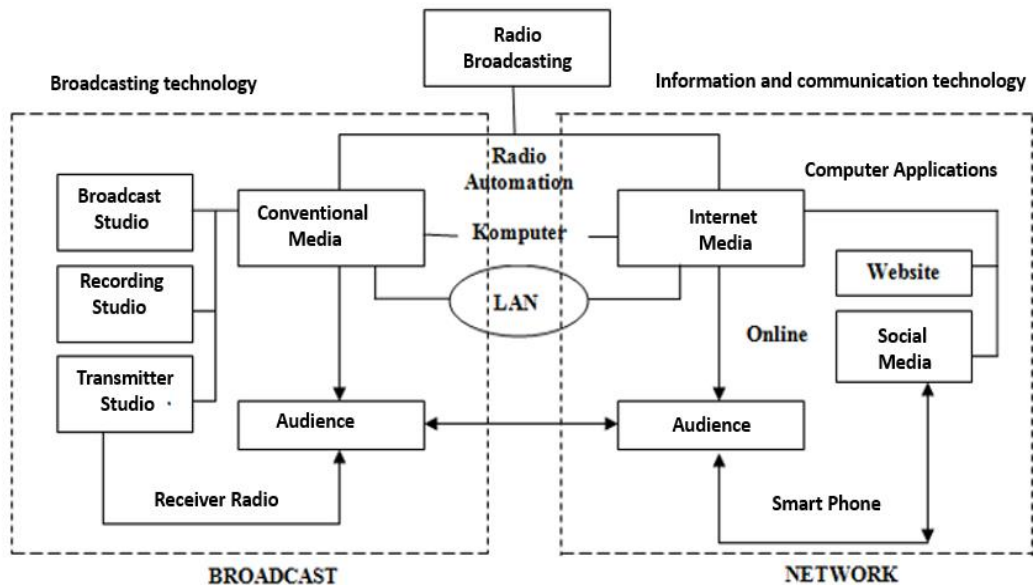**Analog & Internet Radio Broadcast Integration**

Figure 8.
Source: Harliantara, (2021), Radio Indonesia Dulu, Kini, Dan Nanti

The current implementation that is developing is the phenomenon of management in each radio broadcaster in anticipation of this computer, digital, and internet era. The current radio broadcast data management system is increasingly easier and more practical due to the support of technological developments.(Kristiyono, 2015) This is due to the development of computer, internet, and web-based information system technology. Computer hardware must be managed by computer software, known as program systems. A program system can also allocate resources from the computer system for each task and use. (Scott, 2001) In Indonesia, internet technology began to be popular with radio in the early 2000s. At that time, internet technology that was poured in the form of a web (www) tended to be used by companies engaged in the radio field, with a focus on making websites a means for promotion and proving that their radio appeared on the web. It's not surprising that radio stations not only broadcast programs but also feature radio broadcasters on their websites. (Eveland, 1986; MEYER, 2004)The website is also a good place for listeners to find radio stations and shows. A website is the existence of radio in the cyber world and can also increase interaction with listeners. Before long, the radio began to display podcasting (the preparation and distribution of audio files for download) and continued live streaming on its website.(Acevedo Clavijo et al., 2015) In live streaming, it can appear if every radio has used live streaming, meaning that if you just click on the writing or reading of the live streaming, then the voice of the announcer or song will appear directly from the radio's web address.

The stages we passed are inseparable from the existing internet quality conditions. At that time, the application of internet technology in the radio world encountered obstacles. First, bandwidth).(Melville & Ramirez, 2008) Second, the coding system for MP3 format or other formats that are not yet good, or, in other words, are not as perfect as they are now, affects the compression of audio files. For example, with a bandwidth of 96 kbps at the beginning of the 2000-an era, the audio quality was like audio in the 32 kbps AAC format in the 2010-an era. This condition makes the Masima radio group in Jakarta, which oversees the network of several well-known radio stations such as Prambors and Delta, prefer to start seriously applying internet technology in the form of streaming radio only around the 2010-an era. Previously, in the range of 2005–2006, internet applications on radios under Masima were more likely to be carried out in podcast packaging. At that time, podcasting successfully attracted many listeners, especially when radio show programs were shown, such as "Balada Cinta Ramadhan (BCR)" on Prambors radio. Currently, the bandwidth is bigger, and the compression is much better.

Broadcast radio generally makes live streaming and podcasting the flagship menu on the web, which is regularly shared through social media ranging from Facebook, Instagram, and Twitter. The choice of listening to the radio is also made easier by the sound quality, which in general is much better. For optimal sound quality, the best hardware and software, along with a stable and good internet network, must support it. The most needed hardware for streaming radio is a computer or laptop and microphone, in addition to internet facilities, of course. To maximize the audio from the radio, the minimum microphone used must already have a noise-cancelling feature that can be obtained from the microphone on a gaming headset. For medium-quality audio, you can use a condenser microphone. This microphone uses USB connectivity so that it can plug and play. If you want to be better, you can use a professional microphone with XLR connectivity that requires additional hardware, namely a mixer. Meanwhile, for software, you can use paid or free software. Unpaid software or freeware for recording can use Audacity or Garage Band for macOS users. Paid software for recording includes Adobe Audition, which can be directly connected to the mixer. Both paid and free software are certainly intended to produce good audio output. In technical terms, good audio is a sound that has no noise, is loud,

and does not echo. Good-quality audio needs a high bitrate. So, the higher the bitrate, the better the audio quality. High bitrate is in the minimum range of 64 kbps, which is recommended at 128 kbps. As for the internet connection, the need for streaming radio can be said to be minimal; it only requires an upload speed of 2 (two) mbps for a minimum. To get maximum results, the ideal internet upload speed is 5 (five) mbps. Internet radio today is a combination of conventional media and internet access to enjoy program services. Internet radio offers worldwide accessibility due to the internet's global reach. Radio broadcasting websites and podcasts have become an additional source of income for many stations, but not all radio broadcasters take advantage of them. Until now, the website of the radio broadcasting institution is still considered only a complement to promoting radio on the internet. In addition, the presence of a radio website is another way to add value to commercial purchases on traditional media. This also applies to radio broadcasts and podcasts.

One thing to keep in mind is that podcasting and streaming allow local clients the opportunity to promote their products nationally and globally at no additional cost. Radio broadcasting websites and podcasting are very helpful in marketing advertiser products that allow viewers to click on the stream on the advertiser's logo installed on the radio broadcasting website, directly bringing the audience to the advertiser's web page. In addition, radio broadcasters with access to the website can immediately know the data to be given to advertisers about the number of users streaming the broadcaster and downloading specific podcasts that have been created by the advertiser's sponsor. Websites and podcasting are two of the efforts of radio broadcasting managers to maintain conventional media audiences, which have now penetrated the internet.

Conclusion

Digital transformation is needed as a top priority for the radio broadcasting industry sector that needs to participate in the digital ecosystem in Indonesia as a strategic step to accelerate and increase the utilization and development of inclusive digital technology by being empowering, innovative, and ethical in realizing highly competitive radio broadcasting productivity towards a sovereign, advanced, fair, and prosperous Indonesia. Therefore, the processes of radio literacy, internet literacy, web literacy, and digital literacy are important steps in the process of digitizing the radio broadcasting industry. Digital literacy is needed to encourage the development of technology and radio broadcasting management structures in this era of convergence. This understanding of digital literacy will encourage the acceleration of the provision of digital broadcasting infrastructure, the strengthening of broadcasting infrastructure, and the strengthening of broadcasting governance, as well as strengthening public communication through digital platforms as part of the democratization of the media sector.

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