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# Adaptation of Information and Communication Technology of Newspaper in the Digital Era

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**Abstract.** The rapid development of information and communication technology is currently pushing the mass media industry, especially newspapers, to make adjustments. The development of this technology has changed human habits in accessing information from the mass media. One adjustment to the development of digital technology is through media convergence. If one wants to survive in the digital era, convergence is absolutely necessary. This study aims to identify and analyze the strategies undertaken by the management of the Pikiran Rakyat newspaper to maintain its existence in the digital era. Data collection was carried out through in-depth interviews with the management of the Pikiran Rakyat newspaper, as well as a literature review of previous research on the same topic. The analysis results show that the Pikiran Rakyat newspaper applies the multimedia, multichannel, and multiplatform (3M) strategy. According to the management, implementing this strategy is the answer to the dynamic changes in people's perspectives on obtaining information. Hopefully, this research can serve as a reference for future media studies and information and communication technology researchers, and provide useful insights for the mass media industry as it adjusts to the current digital era.

**Keywords:** Digital era; Newspaper; Convergence; Mulimedia, Multichannel, Multiplatform

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## 1. Introduction

The development of information and communication technology, particularly the internet, has significantly transformed the media landscape [1]. Many readers have shifted to digital platforms to access news and information, changing their preferences from print newspapers to online media [2]. The presence of digital technology and the internet is one of the important determinants in bringing up multimedia devices, such as print media which currently also has a digital version (online). One of the national newspaper companies in Indonesia, namely Pikiran Rakyat, already has a digital version, both in the form of e-paper and web. This has a



significant effect on changes in the flow of information and communication models, both in terms of production, distribution and consumption [3]. The one way communication pattern which is a characteristic of conventional media eventually continues to transform into two way communication and in turn leads to a form of interactivity communication [4, 5]. The need for communication interactivity that allows people to share things without delay is the weak point of conventional technology and on the other hand, is one of the bases for the development of the convergence trend. Media convergence makes audiences have more choices of media with increasingly diverse content [6].

Several previous studies on the topic of mass media stated that the adaptation of communication and information technology is a must. Tapsell's research [7] states that the development of social media use in Indonesia is very significant and this fact affects people's habits of getting information, from conventional to digital. Subsequent research suggests that advances in internet technology have given birth to a new paradigm, which then results in a shift in the human perspective in viewing everything without the exception of information media. This must be addressed carefully by mass media managers in Indonesia, so that its existence can still be accepted by the community [8]. In particular, research on newspapers was carried out by Khadziq [9] (2016), where it was stated that the fate of newspapers would be pathetic if they did not adopt today's technological developments.

Although two previous studies analyzed the same topic, there are significant differences with this research. Researcher Tapsell focused more on the influence of social media on the sustainability of newspapers, while Khadziq's research emphasized that newspapers that do not adopt current technological advancements will face a dismal fate. In contrast, this research has a different focus and serves as an innovation in the field. The novelty of this study lies in its focus on the adaptation of information and communication technology by the newspaper industry, specifically exploring how newspapers like *Pikiran Rakyat* face technological changes and adapt to remain relevant in the digital era. It also involves an in-depth analysis of the strategies implemented by newspapers, particularly *Pikiran Rakyat*, in responding to the developments in information and communication technology.

Based on the background and previous research, the objective of this study is to examine the adaptation of information and communication technology by *Pikiran Rakyat* newspaper in the digital era. The application of a descriptive qualitative approach enables the researcher to gain a deep understanding of *Pikiran Rakyat*'s adaptation strategies and depict them within a broader context through relevant literature reviews. Thus, this study contributes new insights into the understanding of how newspapers adapt to information and communication technology in the digital era, with a specific focus on the case study of *Pikiran Rakyat* newspaper.

## 2. Method

This research adopts a qualitative approach with a case study method. The qualitative approach is employed to comprehend complex phenomena and depict the inherent experiences and meanings within them [10]. The case study method enables researchers to conduct an in-depth investigation of a specific phenomenon within its real-life context.

The data collection in this study encompasses various techniques, including in-depth interviews, direct observations, and document analysis. In-depth interviews are utilized to gain insights from individuals involved in the implementation of media convergence, such as journalists, editors, and media managers. Direct observations are conducted to directly

observe the practical implementation of media convergence within the everyday organizational context. Document analysis is employed to gather information from internal policies, editorial guidelines, and other relevant documents.

Through the qualitative approach and case study method, the researcher can provide a detailed explanation of the strategy for implementing media convergence in the *Pikiran Rakyat* newspaper. Furthermore, it facilitates an understanding of the contextual factors, challenges, and associated successes. This approach enables the researcher to obtain deep and rich insights into the phenomenon under investigation, as well as comprehend the perspectives and experiences of the individuals involved in the implementation of the strategy.

### **3. Results and Discussion**

#### **3.1. An Overview of Today's Mail Industry**

The digital era has brought significant changes to the newspaper industry, and newspapers that fail to adapt quickly and effectively can face serious issues [11]. One of the main problems faced by non-adaptive newspapers is a decline in circulation and readership. In the digital era, people increasingly seek news and information through online platforms such as news websites, social media, and news apps [12]. Readers prefer the convenience and speed of accessing information offered by digital platforms. As a result, the circulation of traditional newspapers has significantly decreased as many people have switched to reading news on their electronic devices [13].

In addition to circulation decline, newspaper advertising revenue has also experienced a drastic decline. In the digital era, companies tend to allocate their advertising budgets to digital platforms that offer more interactive and measurable ad formats. Traditional newspapers face competition from digital platforms that provide more detailed metrics and analytics on ad effectiveness, as well as more precise audience segmentation. Consequently, newspapers that fail to capture advertisers' attention struggle to maintain advertising revenue [14].

Changes in reader behavior and consumer preferences are also challenges for non-adaptive newspapers. Modern society desires instant news and wants to stay continuously connected to the latest developments. Digital platforms allow readers to access news in real-time and present more interactive content such as videos, images, and live comments [15]. Newspapers that cannot provide the same experience in terms of speed, interactivity, and accessibility will lose a significant portion of readership.

Furthermore, non-adaptive newspapers may face limitations in harnessing the revenue potential of digital platforms. Newspapers that fail to develop business models suitable for the digital era, such as digital subscriptions, digital advertising, and collaborations with online platforms, miss out on opportunities to generate sustainable revenue. Newspapers that cannot adapt to the digital era face significant challenges, including declining circulation, decreasing advertising revenue, changing reader behavior, and difficulties in leveraging the potential of digital platforms [16].

To survive and remain relevant in the digital era, newspapers must take strategic steps to address these challenges, including content innovation, developing sustainable business models, and strengthening their digital presence [17]; [18]. Several newspapers around the world and in Indonesia have undergone changes by adapting to the digital era, and some have experienced a decline in revenue or even bankruptcy, as shown in Table 1 below.



**Table 1. The impact of the digital era on newspapers worldwide and in Indonesia has been significant. Here is the translation**

No.	Newspaper	Country	Year Established	Status
1	The Rocky Mountain	United States	1859	Defunct
2	The SPI	United States	1863	Online Only
3	The Independent	United Kingdom	1986	Online Only
4	The Cincinnati Post	United States	1881	Defunct
5	The Boston Phoenix	United States	1965	Defunct
6	Suara Pembaruan	Indonesia	1987	Online Only
7	Bisnis Indonesia	Indonesia	1985	Rate decreased
8	Media Indonesia	Indonesia	1970	Rate decreased
9	Suara Merdeka	Indonesia	1950	Rate decreased
10	Lampung Post	Indonesia	2002	Rate decreased

Source : adapted from Pamuji et al. (2022) and other sources

Meanwhile Pikiran Rakyat Newspaper has a rich history that holds special significance for the Indonesian people, particularly those in West Java. The newspaper's tagline proudly states that it is a national city newspaper born in West Java, showcasing its deep-rooted connection to the region. Pikiran Rakyat was established many years ago and has played a vital role in providing news and information to the local community and beyond. It started as a print newspaper, serving as a trusted source of news for readers in West Java and gaining a loyal readership base over time[19].

However, with the rapid advancements in internet technology and the changing media landscape, Pikiran Rakyat recognized the need to adapt and embrace the digital era. To ensure its continued relevance and reach, the newspaper expanded its presence beyond the traditional print format and ventured into the digital realm.

This adaptation involved leveraging technological developments to make Pikiran Rakyat accessible online. The newspaper has likely established a website or an online platform where readers can access news articles, features, and other content digitally. By embracing digital technology, Pikiran Rakyat aims to cater to the evolving preferences and habits of its audience, who increasingly consume news through digital platforms. This transformation from a print-only newspaper to a multi-platform media outlet reflects Pikiran Rakyat's commitment to staying relevant and adapting to the changing media landscape. It demonstrates the newspaper's willingness to embrace technological advancements and meet the needs of its readers in the digital era[20].

### 3.2. Media Convergence

Media convergence refers to the merging of different media platforms, technologies, and content formats into a single digital environment [21]. In the context of newspapers, media convergence refers to the integration of traditional print journalism with digital technologies and online platforms. With media convergence, newspapers have expanded their presence beyond the traditional print format and have incorporated digital elements into their

operations. This convergence allows newspapers to reach a wider audience, adapt to changing consumer preferences, and offer new and interactive ways of delivering news and information [22].

Here are some key aspects of media convergence in newspapers:

- i) **Digital Platforms:** Newspapers have established online platforms such as websites, mobile applications, and social media accounts to distribute their content digitally. These platforms enable readers to access news articles, multimedia content, and engage in discussions and interactions with other readers.
- ii) **Multimedia Content:** Converged newspapers often go beyond text-based articles and include multimedia elements such as videos, infographics, podcasts, and interactive features. This enhances the storytelling experience and provides readers with a more engaging and immersive news experience.
- iii) **Audience Engagement:** Media convergence enables newspapers to engage with their audience in real-time. Readers can leave comments, share articles on social media, and participate in discussions, allowing for a more interactive and collaborative relationship between newspapers and their readers.
- iv) **Cross-platform Integration:** Converged newspapers integrate their print and digital platforms, ensuring a seamless experience for readers across different devices. For example, readers can start reading an article in the print edition and continue reading it on the newspaper's website or mobile app.
- v) **Data Analytics:** Converged newspapers utilize data analytics to gain insights into reader behavior, preferences, and interests. This helps newspapers tailor their content and advertising strategies to meet the needs and expectations of their audience, leading to more personalized and targeted news delivery.

Media convergence provides an opportunity for audiences to interact with the mass media and even fill out mass media content. audiences can now control when, where and how they access information, of all kinds. Until now, conventional newspapers can still be obtained, but it has limitations that accompany it [23]. The change in the concept of mass in a media convergence is due to the combination of the characteristics of mass communication and interpersonal communication. Mass communication based on the conventional point of view is defined as an anonymous and alienated audience unit so that the message conveyed to it is massive[24].

However, in the view of the convergent media, a process of demassification actually occurs. Convergent media causes the degree of massivity of the masses to decrease because the communication is more personal and interactive. On a practical level, media convergence presents important issues in the economic, social, cultural, political, and educational fields. This fact is a challenge that must be answered wisely by media owners. Thoughts of Pikiran Rakyat have carried out research attacks on the intelligent convergence of information production that it makes public accountability.

### **3.3. Implementation Multimedia, Multichannel and Multiplatform Applications**

The application of multimedia by Pikiran Rakyat was initially by building the site of the mind-rakyat.com on the desktop version only. The website pikiran-rakyat.com was born in the early era of the emergence of online media in Indonesia, in 1996. Initially this site displayed news as presented in the printed version and was only complementary. Given the rapid development



of information and communication technology, which is accompanied by changes in the way people search for information, this online page is managed more professionally. The website is made more interactive, not only presenting text and images, but also equipped with audio, video, and graphics that spoil the eyes of visitors.

According to Erwin Kustiman as Marketing Communications of the Pikiran Rakyat, the online site of the Pikiran Rakyat was made as interactive as possible, in order to answer the public's expectations of online news sites. In addition, in an era of very tight competition, the Pikiran Rakyat makes this online site not only a means of news information but many other benefits that can be obtained by its readers. This is in line with the development of multimedia itself, which initially only included media that were consumed by the sense of sight (still images, text, motion pictures, videos, and motion pictures of fiction/animation), and consumption of the sense of hearing (sound) and also had visuals. (shaped). In its development, multimedia also includes kinetic (motion) and smell which is the consumption of the sense of smell. Multimedia has begun to include kinetic elements since it was applied to 3-dimensional film performances which were replaced on the audience's seats. Kinetics and 3-dimensional film evoke a realistic feel.

At first, the management of the Pikiran Rakyat conducted a study on online news sites that are clickbait, can they provide benefits is a collaborative pattern possible. Because the fundraising pattern doesn't seem possible for now. Collaborative content is created by involving more communities in the community. The lack of journalists, as in the conventional pattern, makes the world of journalism very flexible. Digital native is also a concern of management, paying attention to the millennial generation who tend to prefer visuals, so we need workers who understand the visual world while still carrying journalistic ideals. A generation of digital natives with the following characteristics: enjoying activities in an all-online environment, for example creating friendships online more often; get information as soon as possible, collaborate in a network, look for information randomly, because it prefers hypertext-based information. How to get information, if possible information is obtained instantly [25].

The adoption of multimedia by the Pikiran Rakyat newspaper has certainly made the presentation of information more complex, the distribution of information more massive and limitless. Newspaper media that adopts multimedia means that they are ready with digital scenarios. The digital scenario is an offer that is able to answer the public's wishes [26].

The next development is to create multichannel and multi-platform, where the Pikiran Rakyat is present on many platforms today. In addition to newspapers and online sites, Pikiran Rakyat also builds radio, online television, and social media networking sites such as Facebook, Twitter, Instagram, TikTok and others. Pikiran Rakyat are here to greet the public through many channels, which can be chosen according to the tastes of the readers. Pikiran Rakyat management is aware of the tendency of today's society who is familiar with multi-platforms in their daily lives, especially on social media. Social media provides opportunities and challenges for mass media managers, including newspapers in it [27] However, Pikiran Rakyat constructs the presence of social media as an opportunity to maintain the company, and even enlarge the company. The steps taken by Pikiran Rakyat with the Multimedia, Multichannel and Multiplatform strategies have succeeded in maintaining the existence of this media. This can be seen from the number of followers on social media networks until September 2022.

**Tabel 2. Pikiran Rakyat Social Media Follower.**

No	Media	Account	Follower
1	Instagram	pikiranrakyat	144 k
2	TikTok	pikiranrakyat	2,5 m
3	Twitter	pikiran_rakyat	464 k
4	Youtube	pikiran rakyat	505 k
5	facebook	pikiranrakyatonline	292 k

Source : Pikiran Rakyat Social media official (2022)

The Pikiran Rakyat Newspaper continues to innovate in the era of convergence so that it can aggregate the information-seeking community and continue to exist in the media industry. Because if not, the Pikiran Rakyat will lose readers and sink into the current of convergence development. So based on the results of the research that the author did, it can be interpreted that the Pikiran Rakyat has carried out mediamorphosis well. This is evidenced by the existence of two goals that are achieved internally and externally when the Pikiran Rakyat metamorphoses and converges. The essence of convergence in this case is the unification of information and communication technology. Convergence allows the enjoyment of various services such as broadcasting, telecommunications and internet services in one integrated device [28].

With the shift to a digital system, the management of the People's Mind is required to have human resources who understand digital characteristics. The multimedia journalistic system must be run in its entirety, namely a combination of the use of technology and human resources. The use of journalistic multimedia has become a trend in the world since the development of digital technology was present. Multimedia journalism as a form of approach to the social system of the digital era [29].

#### 4. Conclusion

The study findings reveal that the Pikiran Rakyat newspaper responded to the advancements in information and communication technology by implementing media convergence. This convergence was carried out through the adoption of a multimedia strategy, which involved the establishment of an interactive, multi-platform, and multichannel online site, [www.pikiran-rakyat.com](http://www.pikiran-rakyat.com). Additionally, the newspaper ventured into radio channels and leveraged social media platforms. By embracing these strategies, the company capitalized on the opportunities presented by the development of information and communication technology to ensure its sustainability and growth.

The implementation of a multimedia strategy allowed the Pikiran Rakyat newspaper to create a dynamic and engaging digital presence. Through their online site, they were able to offer a range of interactive features, such as videos, audio content, and interactive elements, catering to the preferences and needs of their audience. This approach enabled the newspaper to expand their reach and engage with readers in new and innovative ways.

Furthermore, by adopting a multichannel approach, the newspaper diversified its distribution channels beyond the traditional print format. By establishing radio channels, they tapped into the audio medium and reached a wider audience. Additionally, by utilizing social media platforms, the newspaper leveraged the power of social networking to disseminate

news, engage with readers, and foster a sense of community. The utilization of multiple platforms, including the online site, radio channels, and social media, showcased the Pikiran Rakyat newspaper's commitment to embracing the evolving media landscape. By adapting to the changing preferences and habits of their audience, the newspaper positioned itself as a comprehensive and versatile source of information across various channels.

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