



Strengthening Digital Transformation of Mass Media for National Resilience

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Abstract

Purpose: This study examines the digital transformation of Indonesia's mass media and its critical impact on national resilience, focusing on both the opportunities and challenges arising from this transition.

Study Design/Methodology/Approach: Adopting a qualitative descriptive approach with secondary data analysis, this study utilizes a PESTLE-SWOT framework to assess the role of digital media in bolstering Indonesia's information infrastructure, human resource development, and regulatory frameworks that are essential for maintaining national security.

Findings: The findings reveal that while digital transformation improves information accessibility and efficiency, it also introduces significant challenges. These include increased risks of misinformation, fragmented regulations, and disparities in digital infrastructure across regions. Such disparities especially impact remote areas, exacerbating information inequality. To counter these issues, a coordinated policy approach, equitable infrastructure development, and enhanced digital literacy initiatives are necessary to strengthen resilience.

Originality/Value: This study underscores the strategic importance of an integrated policy framework to leverage digital media for national resilience, recommending strengthened regulations and equitable digital infrastructure to mitigate security risks and foster inclusive information access.

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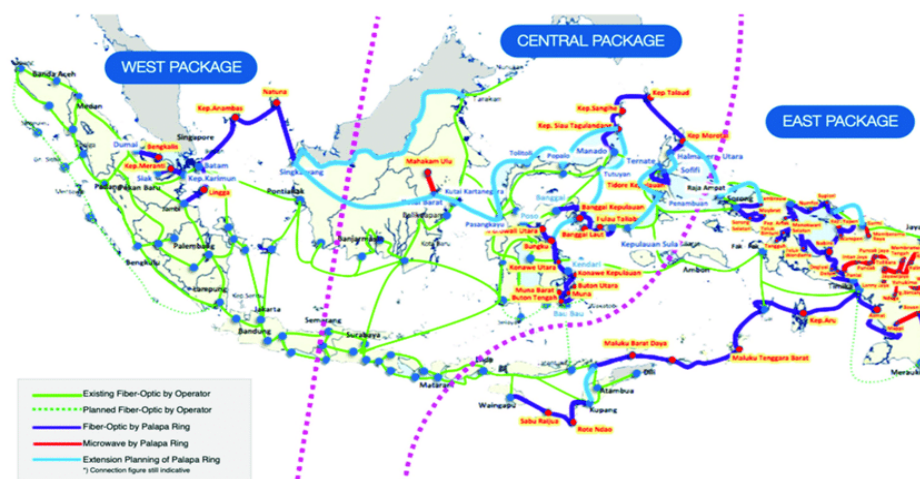
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INTRODUCTION

The global developments ushered in by the Fourth Industrial Revolution and Society 5.0 have driven various sectors to adopt digital technologies in order to enhance efficiency and competitiveness. Furthermore, the adoption of digital transformation has impacted not only the economic and industrial sectors but has also extended to mass media, a principal channel of public information. Its borderless growth has led to significant disruptions, altering the patterns of access and fundamental consumption of information within society (Doktoralina, 2023; Sarjito, 2023). This global shift has necessitated that traditional media worldwide adapt accordingly. The demand for accelerated digital technology adoption is also evident at a regional level, particularly among Southeast Asian countries, including Indonesia. Thus, the rising internet penetration and the use of social media can strengthen the role of digital media in developing digital infrastructure, supporting transformation across various sectors, including mass media.

Proactive measures and sound policies are essential to manage potential risks in this era of digital transformation, which now pervades nearly all aspects of life. Conventional mass media have increasingly shifted to digital formats to remain viable, given the high level of internet and social media access among the public. According to the Reuters Institute Report, 88% of Indonesians now access news via online media, with only 17% still relying on print. This shift to digital aligns with Ruggiero (2009) assertion that audiences now have greater control in selecting media that meet their needs. With extensive internet access, people increasingly prefer online media, compelling mass media to adapt. Indeed, this shift has had a profound impact; since 2017, numerous national print media outlets, including Koran Tempo, Jakarta Globe, and Suara Pembaruan, have been forced to cease operations.

Figure 1. Map of the Development of the Palapa Ring in Indonesia
Source: Ministry of Communication and Information (2023)



While digital transformation brings numerous benefits, it also presents the risk of misinformation and disinformation, which can threaten social stability. A primary challenge lies in Indonesia's regulatory framework, which remains fragmented and thus insufficient in addressing issues of accuracy and journalistic ethics. Although various regulations exist, such as the Press Law, Broadcasting Law, Public Information Disclosure Law, and Personal Data Protection Law, these are not yet fully integrated to mitigate the rapidly evolving risks of misinformation and disinformation. This challenge

is further amplified by Indonesia's unique geography, with its 17,460 islands and an internet user base reaching 213 million, particularly on social media (Detik.com, 2023). As shown in Figure 1, the Palapa Ring digital infrastructure is divided into three main regions: the Western Package covering Sumatra and parts of Java, the Central Package for Kalimantan, Sulawesi, and parts of Java, and the Eastern Package for Papua. However, digital infrastructure remains concentrated in Java and Sumatra (Tekno, 2023), leaving remote areas with inadequate access. This disparity necessitates particular attention, as digital media holds significant potential to support National Resilience through the swift and extensive dissemination of information (National Resilience Institute of the Republic of Indonesia, 2023).

Without effective regulation, equitable infrastructure, and enhanced digital human resources, however, digital media could become a threat to social stability due to the uncontrolled spread of information. Thus, this study seeks to address the following questions: How can Indonesia's mass media adapt to digital transformation to support national resilience? What are the primary challenges faced by the mass media in this process, and what strategies are most effective in overcoming these challenges in the context of regulation, infrastructure, and human resources?

Literature Review

This study analyses how the uses and gratifications theory and national resilience concept can be applied to understand the challenges faced by Indonesian mass media in the context of digital transformation (J. G. Blumler, 1985; Jay G Blumler, 1979).. Accordingly, the discussion focuses on how media adaptation and audience needs fulfilment approaches can be employed as strategies to enhance the role of mass media in supporting national resilience. Moreover, an integrated regulatory approach and the enhancement of human resources in the digital sector are essential to ensure that digital media remains secure, responsible, and inclusive.

Digital Transformation and the Fourth Industrial Revolution in Mass Media

The Fourth Industrial Revolution and Society 5.0 era have brought significant changes to the media landscape, shifting information consumption and access patterns from traditional print to digital platforms (Ruggiero, 2009). As a result, the public now relies heavily on digital access, where a vast array of information can be obtained instantly and in a more personalised manner. This shift is evident in Indonesia, where 88% of the population accesses news online, indicating a substantial move towards digital media. Consequently, conventional media worldwide, including in Indonesia, must adapt by embracing a more interactive and accessible approach to information dissemination (Reuters Institute, 2023). Moreover, with the integration of technologies such as IoT, artificial intelligence, and big data, mass media can now effectively gather and analyse audience data, enabling personalised content delivery to enhance user engagement and experience. Real-time media consumption analysis provides strategic insights for corporate goals and fosters a transition from one-way communication to a more dialogic approach.

Uses and Gratifications Theory in Audience Choice

The Uses and Gratifications Theory, as proposed by J.G. Blumler (1985) and Jay G. Blumler (1979), supports the phenomenon of technological change in the digital age by highlighting the active role of audiences in selecting media that meet their specific needs, such as timely information, entertainment, and social interaction. This view contrasts with earlier paradigms, which perceived audiences as passive recipients of

messages with limited active engagement. While Uses and Gratifications Theory considers audiences as agents who exercise control over their media choices to fulfil specific needs, traditional approaches primarily focus on media's influence on the audience. Furthermore, Ruggiero (2009) reinforces that advancements in internet technology have amplified audience control, providing greater freedom in selecting information sources. This increased freedom directly impacts media strategy, necessitating adaptation to remain relevant and meet audience expectations in the digital era. Thus, this theory offers a fresh perspective that underscores audience motivation and expectations in mass communication, while acknowledging that media choice depends on the user's intent.

On the other hand, despite the rise in digital technology and the number of users, the growing control audiences have over media access remains a point of concern. This concern stems from the potential for audiences to freely select from various information sources, which does not always have positive implications for traditional media, particularly in terms of adaptation. Consequently, the media industry must develop interactive and responsive strategies to meet the diverse and complex expectations of digital-savvy audiences. The goal is to remain engaging to an audience with critical, flexible values and a preference for experiences aligned with personal preferences (Ruggiero, 2009).

Misinformation Risk and Regulatory Challenges in Indonesia

While the digital transformation of mass media offers efficiency and broad accessibility, it also introduces risks, particularly concerning the spread of misinformation and disinformation, which can undermine social stability (Lemhannas RI, 2023). In Indonesia, a primary challenge in addressing this risk lies in the regulatory framework, which remains insufficiently integrated. Although laws exist, such as those governing the press, broadcasting, public information disclosure and personal data protection, these policies are not yet optimised to confront the complexities of the digital era. The lack of a cohesive regulatory approach to managing information dissemination on digital platforms exacerbates the risks of inaccuracy and low journalistic ethics.

Digital Infrastructure Gap and Accessibility in Indonesia

Despite the high number of internet users in Indonesia, reaching 213 million in 2023 (Detik.com, 2023), digital infrastructure is unevenly distributed. The Palapa Ring project has extended internet access to certain regions; however, digital infrastructure remains concentrated in Java and Sumatra (Tekno, 2023). Remote areas, particularly those outside these two islands, still lack adequate access, thereby widening the information gap. This disparity poses a challenge to the potential of digital mass media in supporting National Resilience through rapid and extensive information dissemination. Without equitable infrastructure, communities in remote areas may struggle to access accurate information, further widening social and economic divides (Jurriens et al., 2017). Some initiatives, including the Palapa Ring programme aimed at accelerating digitalisation nationwide, have been implemented to improve digital access across Indonesia. Notably, internet users in Indonesia primarily rely on mobile phones, which aligns with the global trend in rising internet usage (Badan Pusat Statistik, 2022).

The Need for Integrated Policy and Human Resource Development

The need for an integrated policy and enhancement of human resources in the digital sector is essential to addressing digital transformation in Indonesia. Literature suggests that a comprehensive policy, supported by adequate digital infrastructure and

consistent regulation across all regions, can strengthen accessibility and national resilience. Furthermore, building human resource capacity through technical training and digital ethics education is crucial to ensure responsible media usage and to prevent the spread of inaccurate information. This approach aligns with the values of Pancasila, which emphasises a balance between freedom of expression and social responsibility to maintain national harmony.

METHODS

This study employs a descriptive qualitative method (Creswell and Poth, 2024), focusing on collecting and analyzing data and information derived from secondary sources through an extensive literature review. This approach enables a detailed exploration of existing studies, policy documents, and statistical reports relevant to digital transformation in the context of mass media and national resilience. Specifically, secondary sources include government reports, policy analysis, and prior research on digital infrastructure, regulatory challenges, and the development of human resources (HR) within the digital media sector. This collection of data provides a comprehensive foundation for identifying trends and challenges in Indonesia's mass media landscape.

The study adopts a strategic assessment framework utilizing PESTLE (Political, Economic, Social, Technological, Legal, and Environmental) to examine key factors impacting the digital transformation of mass media as it relates to National Resilience. The PESTLE analysis allows for a structured exploration of each factor's impact, helping to illuminate how political policies, economic resources, and technological advancements influence media adaptation in Indonesia. Each element of PESTLE is assessed using specific examples from current Indonesian contexts, such as digital infrastructure projects or policy gaps in digital media regulation (Yüksel, I. 2012; Christodoulou and Cullinane, 2019; Kolios and Read, 2013).

Furthermore, the study incorporates SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis to evaluate the organizational factors affecting the digital media landscape. SWOT analysis provides a critical assessment of the strengths, such as the high internet penetration rate, and weaknesses, like limited digital literacy, within Indonesia's mass media. The integration of PESTLE and SWOT ensures a multifaceted understanding of the challenges and opportunities within digital media transformation. This combined approach allows the study to not only assess existing conditions but also to propose strategies for enhancing national resilience through digital media advancements (Teoli et al., 2019).

RESULTS AND DISCUSSION

Since 2017, Indonesian mass media has been undergoing a rapid transformation from traditional print to digital platforms. This shift is largely influenced by evolving audience preferences and the rise of digital technologies. While some media organizations have adapted successfully, others have struggled to keep up, highlighting substantial challenges in their efforts to support national resilience. As audiences increasingly rely on digital platforms—especially social media, which often lacks journalistic oversight—the role of traditional media as a trusted information source is weakened, potentially compromising social stability. According to Ruggiero (2009), digital platforms are attractive to audiences for their interactivity and accessibility. However, this shift also brings the risk of misinformation, which can have destabilizing effects on society.

Despite the enactment of Press Council Regulation No. 01/PERATURAN-DP/X/2022 aimed at controlling misinformation, significant issues persist. The 2023 Edelman Trust Barometer indicates a decline in public trust in social media, underscoring the importance of reliable digital mass media. Four main challenges obstruct Indonesia's journey toward effective digital transformation in the media: regulatory gaps, uneven technological infrastructure, cybersecurity vulnerabilities, and a shortage of skilled human resources in Information and Communication Technology (ICT). Overcoming these issues is essential for the media's role in strengthening national resilience, requiring a coherent, strategic approach.

First, Regulatory and Policy Gaps: The existing regulatory framework is fragmented and not fully equipped to handle the complexity of digital information flow. This gap has led to a rise in unregulated platforms and citizen journalism, where journalistic standards are often not observed. Without cohesive policies that govern both digital and traditional media, misinformation can spread unchecked, further eroding public trust.

Second, Uneven Technological Infrastructure: Indonesia's digital infrastructure is primarily concentrated in Java and Sumatra, leaving remote areas underserved. This digital divide restricts equal access to information, especially in regions where reliable media is crucial for socio-economic stability (Detik.com, 2023; Tekno, 2023). For digital media to effectively support national resilience, infrastructure development must ensure all regions are connected.

Third, Cybersecurity Vulnerabilities: Inadequate cybersecurity measures expose digital platforms to potential attacks, which can threaten critical information systems, affecting national defense and stability. High rates of cyber incidents highlight the need for secure digital frameworks that protect both public and private sectors, ultimately safeguarding national interests.

Finally, Human Resource Limitations: The shortage of skilled ICT professionals hinders effective digital transformation. Additionally, a lack of trained personnel in digital media ethics complicates the effort to maintain high information standards. Developing ICT skills and ethical standards in media is essential for responsible media practices that support national resilience.

To address these challenges, Lewin's planned change model (2005), which involves the phases of unfreezing, changing, and refreezing, provides a structured framework. This model can guide the Indonesian media sector through necessary transformations, embedding adaptive changes into its operational culture.

Implementing a PESTLE Strategy for Digital Media Transformation

A PESTLE (Political, Economic, Social, Technological, Legal, and Environmental) analysis offers a structured approach for overcoming these challenges and enhancing the role of digital media in national resilience:

- **Political:** Government support for expanding digital infrastructure is essential. However, consistent regulation and international cooperation are equally important to address cyber threats that cross national borders. Aligning cybersecurity policies across levels of governance can strengthen national resilience.
- **Economic:** The growth potential of the digital sector provides opportunities for ICT development, though reliance on foreign technologies increases cybersecurity risks. Investing in local ICT solutions and skills development will reduce dependencies and foster resilience within the national economy.

- **Social:** Public awareness of information security is rising, which is encouraging. However, low digital literacy, especially in rural areas, leaves the public vulnerable to misinformation. Digital literacy programs that educate citizens on evaluating information sources are critical in building a more informed society.
- **Technological:** Emerging technologies like AI and machine learning offer significant opportunities for strengthening cybersecurity. However, the fast-paced nature of technological change requires continuous updates to media infrastructure and policies to stay aligned with global standards.
- **Legal:** Stronger enforcement of cyber regulations is essential to manage information flow in digital spaces. Current laws need robust enforcement to effectively protect journalistic integrity and maintain public trust.
- **Environmental:** Climate-resilient digital infrastructure can help secure reliable media services, especially in regions vulnerable to environmental challenges. Investments in sustainable technology can both support digital resilience and address environmental risks that threaten critical infrastructure.

In summary, for Indonesia's media industry to support national resilience effectively, it must operate within a supportive framework of government policies that foster a healthy business environment, enforce journalistic standards, and build public trust. Media entities should independently commit to high standards of accuracy and credibility. An integrated approach—combining regulatory improvement, infrastructure development, cybersecurity investment, and workforce training—will empower Indonesia's mass media to thrive in the digital era and contribute positively to national resilience

CONCLUSION

This study reveals that digital transformation in Indonesian mass media has become an urgent necessity to support National Resilience. The shift from print to digital media, driven by high internet usage, has fundamentally changed public information consumption patterns. Based on the research questions, this transformation brings advantages in efficiency and broad accessibility but also presents risks, such as the spread of misinformation and disinformation, which can threaten social stability. Furthermore, the digital infrastructure gap in Indonesia exacerbates information accessibility issues, particularly in remote areas. Therefore, optimising regulation, strengthening infrastructure, and enhancing human resource quality are crucial to addressing the current challenges.

Future research should incorporate primary data through interviews with audiences and media practitioners to better understand the needs and challenges in digital adaptation, as well as employ quantitative approaches to analyse the impact of digital transformation on public information consumption behaviour. This study's limitations include a lack of primary data, leaving the perspective of digital media users in Indonesia underexplored, and a narrow focus on mass media, which does not address the role of local government policy in information resilience. In addition to Uses and Gratifications Theory, Lewin's change theory can be applied to understand the adaptation process of mass media on digital platforms. Controlled and structured digital transformation is expected to provide more accessible and credible information, reduce exposure to disinformation, and enhance public trust in media. It is recommended that the government accelerate the development of digital infrastructure in remote areas, enforce stricter regulations on journalistic ethics in digital media, and develop digital human resources through training in digital literacy and journalistic ethics. These steps are anticipated to optimise the role of digital media in supporting National Resilience, maintaining social stability, and advancing an informed society in Indonesia.

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