Educia Journal

ISSN: (2988-019X)
Vol. 4 No. 1, 2026
Page: 80-94

Analysis of National Hoax Data for the Development of Digital Literacy in Indonesia: A Data-Driven Study and its Implications for Education Policy

Iin Syamsul Arifin[1], Nangkula Utaberta[1]

[1]Study Program PJJ PAI, Faculty of Postgraduate Studies, Universitas Islam Negeri Siber Syekh Nurjati Cirebon, Indonesia

[2]School of Architecture and Built Environment, FETBE, UCSI University, UCSI Heights, 1, Jalan Puncak Menara Gading, Taman Connaught, 56000 Cheras, Wilayah Persekutuan Kuala Lumpur, Malaysia

*Corresponding Author: Iin Syamsul Arifin

Email: finaabi@gmail.com

Article Info

Article History:

Received March 22, 2026
Revised April 12, 2026
Accepted: May 16, 2026

Keywords:

Digital Literacy, Hoaxes, Misinformation, Education Policy, Information Management.

Abstract

The increasing use of digital media has facilitated information access while simultaneously accelerating the spread of hoaxes and misinformation. This study aims to analyze national hoax data in Indonesia and explore its implications for digital literacy development and education policy. Using a descriptive quantitative approach supported by content analysis, the study utilizes secondary data obtained from the official Komdigi hoax database. The data were analyzed through descriptive statistics, time-series analysis, and content analysis to identify dissemination patterns and content characteristics. The findings indicate that hoaxes remain a persistent feature of Indonesia's digital information ecosystem and are commonly characterized by sensational narratives, emotional appeals, and pseudo-credible claims. The study argues that misinformation represents not only a communication challenge but also an educational and information management issue. Therefore, strengthening digital literacy is essential to enhance critical thinking, information verification, and responsible digital engagement. The findings suggest that digital literacy should be systematically integrated into educational policies and learning practices to foster more resilient and informed digital citizens.

Introduction

The rapid advancement of digital technology has fundamentally transformed the way information is produced, distributed, and consumed across the globe. The proliferation of internet access, mobile devices, and social media platforms has enabled individuals to obtain information instantly regardless of geographical and temporal boundaries (Suryadi et al., 2025; van Zanden, 2023; Mehra et al., 2025; Saini & Mir, 2023; Kumar et al., 2024). Digital communication technologies have facilitated unprecedented opportunities for knowledge sharing, social interaction, and public participation. However, alongside these benefits, the digital environment has also created new challenges, particularly concerning the widespread circulation of misinformation, disinformation, and hoaxes that threaten the quality of public discourse and social cohesion (Sarjito, 2024; Ibrahim, 2025; Abdulazeez et al., 2025; Wright, 2025).

DOI: https://doi.org/10.71435/737846

In recent years, Indonesia has experienced a substantial increase in internet penetration and social media usage. The rapid growth of digital connectivity has contributed significantly to information accessibility and communication efficiency among citizens (Deviyanti & Putri, 2025; Asimakopoulos et al., 2025; Agboola & Tunay, 2023). Nevertheless, the expansion of digital communication channels has also accelerated the dissemination of false information. Hoaxes have become one of the most pressing challenges in Indonesia's digital ecosystem because they can spread rapidly through social networking platforms, messaging applications, and online communities. Unlike traditional misinformation, digital hoaxes often reach large audiences within a short period, making them increasingly difficult to control and counteract (Faisal & Eldi, 2025; Caled & Silva, 2022; Arcos et al., 2022; Dewi & Elfiandri, 2024; Aïmeur & Elfiandri, 2024).

The phenomenon of hoaxes in Indonesia extends beyond trivial or entertainment-related issues. Hoaxes frequently target strategic and sensitive topics such as politics, religion, public health, economics, and social affairs (Juditha, 2018; Maani et al., 2025). During critical events, including elections, public crises, and major national issues, the circulation of misleading information tends to increase significantly, creating confusion among citizens and influencing public perceptions (Rachmawati et al., 2025). The consequences of hoax dissemination are substantial, ranging from misinformation and misunderstanding to social polarization, declining trust in public institutions, and threats to national resilience (Amilin, 2019; Sarjito, 2024; Surjatmodjo et al., 2024; Shehata, 2025; Bhutto, 2024).

The spread of hoaxes is further facilitated by the characteristics of digital media environments. Social media algorithms often prioritize content that generates high engagement, regardless of its accuracy. Consequently, provocative and emotionally charged information is more likely to attract attention and be shared by users (Erik Saut Hatoguan Hutahaean et al., 2025; Chen, 2023). Many hoaxes exploit psychological tendencies such as confirmation bias, emotional reasoning, and selective exposure, making users more vulnerable to accepting and disseminating false information without verification (Laila et al., 2020; Talukder & Rahaman, 2023; Gwebu et al., 2022). This situation demonstrates that the challenge of combating hoaxes is not merely technological but also cognitive and educational in nature.

Recognizing the growing threat posed by misinformation, the Indonesian government has implemented various initiatives to combat the spread of hoaxes. These efforts include monitoring digital content, shutting down websites that repeatedly disseminate false information, strengthening fact-checking mechanisms, and promoting public awareness campaigns (Rizki Fahreza & Adlin, 2025). In addition, government institutions regularly publish verified hoax data to inform the public about misleading information circulating within society. Such datasets provide valuable information regarding the themes, categories, frequency, and temporal distribution of hoaxes, creating opportunities for deeper empirical analysis. However, despite the availability of these data, their utilization as a foundation for developing evidence-based digital literacy strategies remains relatively limited.

Digital literacy has increasingly been recognized as one of the most effective approaches for reducing the negative impact of misinformation. Digital literacy encompasses not only technical competencies in accessing and using digital technologies but also the cognitive and critical abilities required to evaluate, interpret, and verify information (Anggeraini et al., 2019). Individuals with strong digital literacy skills are generally better equipped to distinguish between credible and misleading information, identify manipulative content, and make informed decisions regarding information consumption. Consequently, digital literacy is

DOI: https://doi.org/10.71435/737846

considered a crucial competency in contemporary society, particularly in environments characterized by information abundance and rapid communication flows (Putri et al., 2025; Wei et al., 2026; Xu et al., 2023).

Previous studies have consistently highlighted the relationship between digital literacy and hoax dissemination. Research conducted by Kurnia and Astuti (2017) demonstrated that limited digital literacy skills significantly contribute to the widespread circulation of hoaxes among internet users in Indonesia. Their findings emphasize the importance of critical thinking and information verification practices in reducing susceptibility to misinformation. Similarly, Juditha (2018) found that hoaxes frequently emerge in relation to socio-political issues and are disseminated systematically through social media platforms. Further studies suggest that hoax creators often employ persuasive communication strategies, including emotional appeals, sensational headlines, and fabricated credibility cues to influence public opinion (Erik Saut Hatoguan Hutahaean et al., 2025; Laila et al., 2020).

Although studies on hoaxes and digital literacy have expanded considerably, several important limitations remain. Many existing studies focus primarily on conceptual discussions, literature reviews, or localized case studies that examine specific incidents or communities (Anggeraini et al., 2019; Kurnia & Astuti, 2017). While these studies provide valuable theoretical insights, they often lack large-scale empirical evidence regarding the actual patterns and characteristics of hoax dissemination across Indonesia. As a result, current digital literacy initiatives may not fully reflect the evolving dynamics of misinformation in the digital environment.

Furthermore, research integrating national hoax data with digital literacy development remains scarce. Existing studies tend to examine hoaxes and digital literacy as separate topics rather than interconnected phenomena. Consequently, there is limited understanding of how empirical patterns of misinformation can inform the design of educational interventions and public policies aimed at strengthening digital literacy competencies. This gap is particularly important because effective educational strategies should be grounded in real-world information challenges faced by society (Putri et al., 2025; Faisal & Eldi, 2025).

Another important limitation concerns the lack of data-driven approaches in educational policy development. Most recommendations regarding digital literacy are formulated based on theoretical assumptions rather than systematic analyses of actual misinformation trends (Anggeraini et al., 2019; Shahzad & Khan, 2024). Without empirical evidence regarding the dominant categories, characteristics, and temporal dynamics of hoaxes, educational interventions may fail to address the most relevant challenges experienced by learners and communities. Therefore, a comprehensive analysis of national hoax data can provide valuable insights for developing more contextual, adaptive, and evidence-based digital literacy programs.

Given these considerations, examining national hoax data becomes increasingly important for understanding the evolving landscape of misinformation in Indonesia. By analyzing patterns, trends, and characteristics of hoax dissemination, researchers can identify the dominant forms of misinformation that circulate within society and assess their implications for educational development. Such an approach contributes not only to the academic understanding of misinformation dynamics but also to the formulation of practical strategies for strengthening digital literacy.

This study seeks to contribute to the growing body of research on digital literacy and misinformation by adopting a data-driven perspective. Through the analysis of national hoax

DOI: https://doi.org/10.71435/737846

datasets, this research provides empirical evidence regarding the distribution, characteristics, and trends of hoax dissemination in Indonesia. The findings are expected to enrich scholarly discussions on digital literacy while offering practical recommendations for policymakers, educators, and stakeholders responsible for developing educational strategies in the digital era. Ultimately, strengthening digital literacy through evidence-based approaches is essential for fostering a more informed, critical, and resilient society capable of navigating the increasingly complex information environment of the twenty-first century.

Method

Research Design

This study employed a descriptive quantitative research design supported by content analysis. The quantitative approach was selected because it enables the systematic examination of large-scale data to identify patterns, trends, and distributions of hoax dissemination across Indonesia. Descriptive quantitative research is particularly suitable for providing an empirical overview of social phenomena through numerical data analysis (Undari Sulung & Muspawi, 2024). In this study, quantitative analysis was used to examine the frequency, temporal distribution, and categories of hoaxes recorded in a national database. To complement the statistical findings, content analysis was applied to textual information contained in the dataset, including hoax titles and clarification narratives. The integration of quantitative and qualitative content examination allows for a more comprehensive understanding of both the scale and characteristics of misinformation circulating within Indonesian digital society.

Data Source

The study utilized secondary data obtained from the *komdigi_hoaks.csv* dataset, which contains verified hoax information published by Indonesia's Ministry of Communication and Digital Affairs (Komdigi). This dataset was selected because it represents one of the most comprehensive official repositories of verified misinformation cases in Indonesia. As an official government source, the dataset provides a high level of credibility and reliability for empirical analysis. The dataset includes several variables relevant to this research, such as hoax titles, publication or verification dates, clarification descriptions, view counts, and content categories. These variables enable the investigation of temporal patterns, thematic characteristics, and dissemination trends of hoaxes at the national level.

Data Collection Procedure

Data collection was conducted using a documentation technique, which involves retrieving and examining existing digital records for research purposes (Mason, 2022). The dataset was downloaded from the official Komdigi database and subsequently organized for analysis. Since the study relied entirely on secondary data, no direct interaction with participants was required. The use of documentary data offers several advantages, including efficiency, broad coverage, and the ability to analyze historical trends over an extended period. Furthermore, utilizing an official database minimizes the risk of data fabrication and enhances the transparency of the research process.

Data Preparation and Preprocessing

Prior to analysis, the dataset underwent a systematic preprocessing stage to improve data quality and ensure analytical accuracy. The first step involved data cleaning, including the identification and removal of duplicate records, incomplete entries, and inconsistencies within the dataset. The second step focused on data standardization, particularly the conversion of

DOI: https://doi.org/10.71435/737846

date formats into a consistent structure to facilitate temporal analysis. The third step involved variable simplification and coding to align the dataset with the objectives of the study. During this stage, hoax records were classified according to specific indicators such as year, month, content category, and thematic characteristics. This preprocessing procedure ensured that the dataset was suitable for subsequent statistical and content analyses.

Data Analysis

Data analysis was conducted in three complementary stages. First, descriptive statistical analysis was performed to provide an overview of the frequency and distribution of hoaxes within the dataset. Descriptive statistics were used to calculate the number of hoaxes across different periods and categories, thereby illustrating the overall magnitude and distribution of misinformation. The results were presented using frequency tables and graphical visualizations to facilitate interpretation.

Second, time-series analysis was employed to examine temporal patterns in hoax dissemination. The dataset was grouped into monthly and annual intervals to identify fluctuations, trends, and periods of increased misinformation activity. This approach enabled the identification of recurring patterns and significant changes in hoax dissemination over time (Ardyan et al., 2023). Through temporal analysis, the study sought to understand how misinformation evolved within Indonesia's digital information environment and whether particular periods exhibited higher concentrations of hoax activity.

Third, content analysis was conducted to examine the textual characteristics of hoax narratives. Following the procedures outlined by Safitri et al. (2022), the analysis focused on identifying recurring themes, dominant narratives, linguistic patterns, and persuasive communication strategies embedded within hoax titles and clarification texts. Particular attention was given to characteristics such as sensationalism, emotional appeals, references to public figures or institutions, and the use of visual-based claims. Through this process, the study explored how hoaxes are constructed and why certain forms of misinformation may be more effective in attracting public attention and encouraging dissemination.

Result and Discussion

This section presents the empirical findings derived from the analysis of the national hoax dataset obtained from the Komdigi Hoax Database. The analysis focuses on three major aspects. First, it examines the temporal trends of hoax dissemination in Indonesia from 2018 to 2025 to identify patterns and fluctuations over time. Second, it investigates the annual distribution of hoax cases to understand long-term changes in the intensity of misinformation circulation. Third, it analyzes the dominant characteristics of hoax content based on textual classification of hoax titles and clarification narratives. These findings provide an evidence-based overview of the dynamics of misinformation in Indonesia and serve as the foundation for understanding the challenges of digital literacy development.

Trend of National Hoax Dissemination (2018–2025)

The time-series analysis of the national hoax dataset demonstrates that the dissemination of misinformation in Indonesia follows a dynamic pattern characterized by periods of rapid escalation and subsequent stabilization. The findings indicate that hoax dissemination is not evenly distributed over time but tends to concentrate during particular periods associated with heightened public attention and intensive information exchange. Figure 1 presents the monthly

DOI: https://doi.org/10.71435/737846

trend of hoax dissemination identified from the Komdigi dataset. The graph reveals a substantial increase in the number of verified hoaxes beginning in early 2019. Prior to this period, hoax cases were recorded at relatively low levels. However, a sharp increase occurred within a short period, indicating a major shift in the volume of misinformation circulating within the digital information ecosystem.

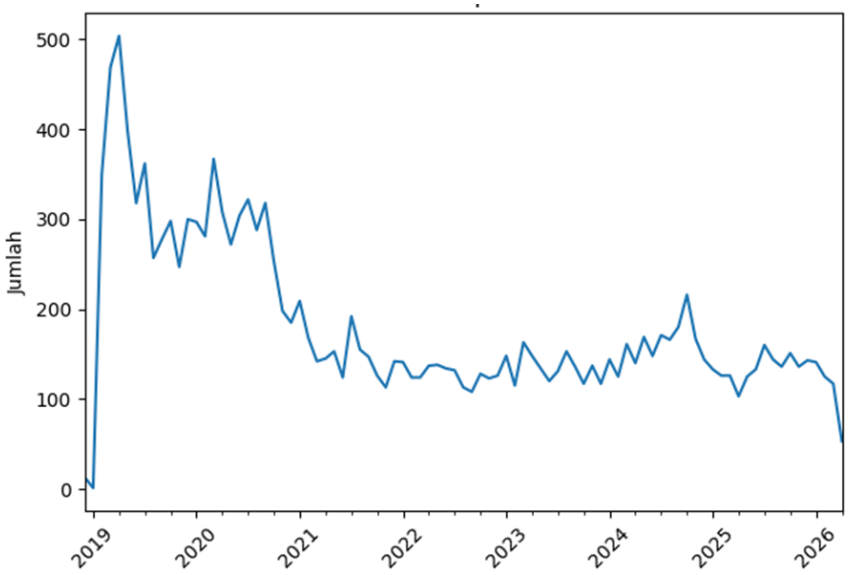

Figure 1. National Hoax Trend Graph

Source: Komdigi Hoax Dataset (2025)

The visualization shows that the most dramatic increase occurred between January and April 2019. During this period, the number of identified hoaxes rose exponentially before gradually declining in the following months. Although the intensity decreased after the peak period, hoax dissemination continued to occur consistently throughout subsequent years. This pattern suggests that misinformation has become a recurring phenomenon rather than an isolated occurrence.

Table 1. Initial Period of the National Hoax Surge

Period	Total Hoaxes
2018-12	13
2019-01	1
2019-02	350
2019-03	469
2019-04	504

Source: Komdigi Hoax Dataset (2025)

The data indicate an extraordinary increase from only one recorded hoax in January 2019 to 350 cases in February 2019. The upward trend continued in March with 469 cases and reached its highest point in April with 504 verified hoaxes. This progression reflects a period of intensive misinformation production and circulation. The rapid escalation demonstrates how digital information environments can experience sudden increases in misleading content when public engagement with online information intensifies. The temporal findings further reveal

DOI: https://doi.org/10.71435/737846

that the dissemination of hoaxes is highly responsive to changing social conditions. The concentration of cases within a relatively short period suggests that misinformation spreads more rapidly when society experiences heightened information demand. Consequently, fluctuations in hoax frequency should be understood as part of broader information dynamics rather than isolated communication events.

Annual Distribution of National Hoaxes (2019–2025)

Beyond monthly fluctuations, the dataset also provides insight into the long-term distribution of hoaxes across multiple years. The annual analysis allows for the identification of broader trends and changes in misinformation intensity over time.

Table 2. Annual Distribution of National Hoaxes

No	Year	Total Hoaxes
1	2019	3,782
2	2020	3,393
3	2021	1,816
4	2022	1,528
5	2023	1,619
6	2024	1,931
7	2025	1,616

Source: Komdigi Hoax Dataset (2025)

The annual distribution reveals substantial variation throughout the observation period. The highest number of hoaxes was recorded in 2019, with 3,782 verified cases. This figure was followed by 3,393 cases in 2020, indicating that the period from 2019 to 2020 represented the most intensive phase of misinformation dissemination within the dataset.

A significant decline emerged in 2021 when the number of recorded hoaxes fell to 1,816 cases. The downward trend continued in 2022 with 1,528 cases, representing the lowest annual figure observed during the study period. These findings suggest a reduction in the overall intensity of misinformation circulation compared with the peak years. However, the decrease was not entirely consistent. The number of hoaxes increased again in 2023 and 2024, reaching 1,619 and 1,931 cases respectively. Although these figures remained below the levels observed in 2019 and 2020, they indicate that misinformation continued to circulate actively within the digital environment. In 2025, the number declined slightly to 1,616 cases, yet the total remained substantial.

The annual trend demonstrates that hoaxes have persisted across the entire observation period. While the intensity has fluctuated considerably, no year recorded an absence of misinformation. The data therefore indicate that hoax dissemination represents a continuous phenomenon embedded within Indonesia's digital information landscape. The long-term pattern also highlights a transition from a concentrated phase of dissemination toward a more stable but persistent form of misinformation circulation. Rather than disappearing after the initial surge, hoaxes appear to have become more dispersed across time, maintaining a consistent presence within public information exchanges. This persistence emphasizes the importance of continuous monitoring and evidence-based interventions aimed at reducing misinformation exposure.

DOI: https://doi.org/10.71435/737846

Characteristics of National Hoax Content

In addition to examining temporal trends, the study analyzed the textual characteristics of hoax content contained within the dataset. The analysis focused on hoax titles, descriptions, and clarification narratives to identify recurring patterns used in the construction of misleading information.

Table 3. Characteristics of National Hoax Content

Characteristic	Description
Sensational	Uses provocative headlines to attract attention
Timely	Addresses issues that are currently viral or trending
Pseudo-credible	Claims association with figures, institutions, or media sources
Visual-based	Utilizes images or screenshots as supporting evidence

Source: Komdigi Hoax Dataset (2025)

The first dominant characteristic is sensationalism. Many hoaxes employ emotionally charged language and provocative headlines designed to generate curiosity, fear, anger, or surprise. Such language increases the likelihood that users will engage with and share the content before verifying its accuracy. The second characteristic relates to timeliness. The majority of hoaxes are connected to topics currently receiving widespread public attention. Trending social, political, health, and religious issues frequently become the focus of misinformation campaigns. By exploiting ongoing public discussions, hoaxes gain greater visibility and relevance among audiences. The third characteristic involves pseudo-credibility. Numerous hoaxes attempt to establish legitimacy by referencing government institutions, public figures, experts, or well-known media organizations. Although these associations are often fabricated or misleading, they create the appearance of authenticity and increase the persuasive power of the content. The fourth characteristic concerns the use of visual elements. Many hoaxes incorporate photographs, edited images, screenshots, or other visual materials that function as apparent evidence supporting false claims. The inclusion of visual content can strengthen perceived credibility and make misinformation more convincing to audiences. The textual analysis further demonstrates that hoax creators frequently combine multiple characteristics within a single piece of content. For example, a misleading message may simultaneously employ a sensational headline, refer to a trending issue, claim endorsement from a reputable institution, and include manipulated visual evidence. This combination enhances the effectiveness of misinformation dissemination by appealing to both emotional and cognitive responses.

The content analysis indicates that hoaxes are not randomly constructed messages but rather structured communication products that utilize specific persuasive techniques. The recurring presence of these characteristics across different categories of misinformation suggests a relatively consistent pattern in the design and dissemination of false information within Indonesia's digital environment. The findings from the temporal analysis, annual distribution, and content characteristics collectively demonstrate that hoaxes constitute a persistent feature of the contemporary information ecosystem. The evidence derived from the Komdigi dataset highlights both the scale and continuity of misinformation dissemination, providing a

DOI: https://doi.org/10.71435/737846

comprehensive empirical foundation for subsequent discussion regarding digital literacy development and education policy responses.

Digital Literacy Development and Implications for Education Policy

The findings of this study suggest that hoaxes should no longer be treated as isolated communication failures or temporary disruptions within the digital information environment. Rather, they represent a structural challenge emerging from the intersection of information management, digital governance, and human decision-making processes. From a management perspective, the persistence of misinformation indicates that contemporary societies are experiencing an increasing imbalance between the speed of information production and the capacity of institutions and individuals to evaluate information quality. This imbalance creates what can be described as a governance deficit within digital ecosystems, where information circulates more rapidly than verification mechanisms can respond. Similar concerns have been raised by Castells (2010), Bennett & Livingston (2018), Wardle & Derakhshan (2017), and Lewandowsky et al. (2017), who argue that the architecture of digital communication increasingly privileges attention, engagement, and emotional response over factual accuracy. Consequently, misinformation becomes embedded within routine information flows rather than functioning as an external disturbance to them.

What makes this issue particularly significant for management scholarship is that misinformation fundamentally alters the conditions under which decisions are made. Organizations, governments, educational institutions, and citizens rely on information as a strategic resource for planning, coordination, and decision-making. Information management literature has long emphasized that decision quality is highly dependent on information quality (Davenport & Prusak, 1998). When misinformation becomes pervasive, the informational foundation of decision-making is weakened. The challenge therefore extends beyond identifying false content; it concerns the management of information ecosystems capable of sustaining trust, reliability, and informed judgment. In this regard, the present findings reinforce the argument of Floridi (2014) that modern societies increasingly face epistemic management problems in which the governance of information quality becomes as important as the governance of economic or political resources.

The persistence of hoaxes also challenges the conventional assumption that increased information access automatically leads to a more informed society. For decades, digital transformation policies have largely focused on expanding connectivity, assuming that greater access to information would generate educational and social benefits. However, the findings of this study align with research demonstrating that access alone does not guarantee informed decision-making. Instead, greater information availability often increases cognitive burden because individuals must process larger volumes of competing, contradictory, and emotionally charged information. This observation suggests that the central challenge of the digital age is no longer information scarcity but information discernment. As Kahneman (2011) have demonstrated, human decision-making frequently relies on cognitive shortcuts that can be exploited by persuasive misinformation. Consequently, the management of digital literacy should be viewed not merely as a technical competency initiative but as an investment in improving societal decision-making capacity.

The characteristics of hoax content identified in this study further reveal that misinformation functions as a sophisticated form of strategic communication. The consistent use of emotional narratives, claims of authority, and references to socially salient issues suggests that hoax producers understand the mechanisms through which information gains legitimacy within

DOI: https://doi.org/10.71435/737846

digital environments. This observation supports previous findings by Pennycook & Rand (2019), who argue that misinformation succeeds not because audiences necessarily believe every claim but because it exploits existing social identities, emotional reactions, and trust networks. From a management perspective, this indicates that misinformation is fundamentally a behavioral issue rather than a purely technological one. Effective interventions therefore require strategies that address organizational behavior, communication practices, and trust management simultaneously.

These findings also contribute to a growing body of literature emphasizing that digital literacy should be conceptualized as a strategic organizational capability rather than merely an individual skill. Traditional approaches often frame digital literacy as a set of technical competencies related to technology use. However, contemporary scholarship increasingly recognizes digital literacy as a multidimensional capability involving critical evaluation, information verification, ethical reasoning, and reflective judgment (Martin & Grudziecki, 2006). The persistence of misinformation observed in this study suggests that digital literacy initiatives focused exclusively on operational skills are unlikely to generate meaningful resilience against misinformation. Instead, educational systems and organizations must cultivate higher-order analytical competencies that enable individuals to evaluate information credibility under conditions of uncertainty.

The implications for educational management are particularly significant. Educational institutions have traditionally focused on knowledge transmission, but the contemporary information environment demands a broader mission centered on epistemic competence. In practical terms, this means that schools and universities must move beyond teaching students how to access information and instead teach them how to evaluate, challenge, verify, and contextualize information. Similar recommendations have been advanced by Wineburg and McGrew (2019), who emphasize that information evaluation has become a foundational competency for democratic participation and lifelong learning. The findings of this study reinforce the argument that educational management frameworks should integrate digital literacy across the curriculum rather than confining it to isolated subjects or short-term interventions.

At the policy level, the evidence suggests that combating misinformation requires a transition from reactive regulation toward preventive capability-building. Governments frequently respond to misinformation through content moderation, fact-checking initiatives, and regulatory interventions. While such measures remain important, they address symptoms rather than underlying vulnerabilities. Research by Obasi (2025), consistently demonstrates that sustainable resilience against misinformation depends on strengthening citizens' critical thinking capacities and information evaluation skills. The present findings support this position by indicating that the long-term effectiveness of anti-hoax strategies is likely to depend less on technological control mechanisms and more on the development of human capacities capable of resisting manipulation.

Another important implication concerns the management of trust. Trust functions as a critical resource within modern societies, influencing cooperation, institutional legitimacy, and collective action. Misinformation undermines trust by creating uncertainty regarding the reliability of information sources and institutional actors. As trust erodes, individuals increasingly rely on informal networks, personal beliefs, or emotionally appealing narratives when making decisions. This process creates fertile conditions for the continued circulation of misinformation. Therefore, digital literacy initiatives should not be understood solely as

DOI: https://doi.org/10.71435/737846

educational interventions but also as trust-building mechanisms that strengthen the relationship between citizens, institutions, and information systems.

From a broader management perspective, the findings highlight the necessity of adopting a systems-thinking approach to misinformation governance. Hoaxes emerge not from a single cause but from the interaction of technological infrastructures, communication practices, cognitive biases, institutional weaknesses, and educational limitations. Systems scholars such as Macassa (2022), argue that complex social problems require integrated interventions addressing multiple interconnected factors. Applying this perspective to misinformation suggests that effective responses must involve collaboration among educational institutions, government agencies, media organizations, technology platforms, and civil society actors. Fragmented interventions are unlikely to generate sustainable outcomes because misinformation itself operates through interconnected systems.

Ultimately, this study advances the argument that digital literacy should be recognized as a strategic national capability. In the twenty-first century, societies compete not only through economic resources or technological infrastructure but also through their capacity to manage information effectively. Nations characterized by higher levels of information literacy are likely to demonstrate greater resilience against misinformation, stronger institutional trust, more informed decision-making, and enhanced adaptive capacity during periods of uncertainty. Consequently, investments in digital literacy should be viewed not as supplementary educational programs but as long-term strategic investments in human capital, social resilience, and sustainable governance. The management challenge revealed by this study is therefore not merely how to reduce hoaxes, but how to develop information ecosystems in which citizens possess the competencies necessary to navigate increasingly complex digital environments responsibly and effectively.

Conclusion

This study concludes that the persistence of hoax dissemination in Indonesia reflects a structural challenge within the contemporary digital information environment that cannot be addressed solely through technological or regulatory interventions. The analysis demonstrates that misinformation has become embedded in everyday information flows, creating significant implications for public decision-making, institutional trust, and educational development. These findings highlight the critical role of digital literacy as a strategic capability that extends beyond technical proficiency to include critical thinking, information evaluation, source verification, and reflective judgment. From an educational perspective, the study underscores the necessity of integrating digital literacy systematically across curricula, strengthening teachers' competencies, and fostering analytical learning environments that equip learners to navigate increasingly complex information ecosystems. Therefore, the development of evidence-based digital literacy policies should be prioritized as a long-term educational investment to enhance societal resilience against misinformation and to cultivate informed, critical, and responsible digital citizens in the digital era.

References

Abdulazeez, I., Omale, Z., & Florence, C. O. (2025). Implications of Social Media Disinformation and False Narratives for Public Opinion among Nigerian Electorate. *International Journal of Sub-Saharan African Research*, *2*(4), 306-324. https://doi.org/10.5281/zenodo.14567537

DOI: https://doi.org/10.71435/737846

Agboola, O. P., & Tunay, M. (2023). Urban resilience in the digital age: The influence of Information-Communication Technology for sustainability. *Journal of Cleaner Production*, *428*, 139304. https://doi.org/10.1016/j.jclepro.2023.139304

Aïmeur, E., Amri, S., & Brassard, G. (2023). Fake news, disinformation and misinformation in social media: a review. *Social Network Analysis and Mining*, *13*(1), 30. https://doi.org/10.1007/s13278-023-01028-5

Amilin, P., & Si, M. (2019). Pengaruh hoaks politik dalam era post-truth terhadap ketahanan nasional dan dampaknya pada kelangsungan pembangunan nasional. *Jurnal Kajian Lemhannas RI*, September, 5–11.

Anggeraini, Y., Faridi, A., Mujiyanto, J., & Bharati, A. L. (2019). Literasi digital dampak dan tantangan dalam pembelajaran bahasa. In *Prosiding Seminar Nasional Pascasarjana UNNES*.

Arcos, R., Gertrudix, M., Arribas, C., & Cardarilli, M. (2022). Responses to digital disinformation as part of hybrid threats: a systematic review on the effects of disinformation and the effectiveness of fact-checking/debunking. *Open Research Europe*, *2*, 8. https://doi.org/10.12688/openreseurope.14088.1

Ardyan, E., Boari, Y., Akhmad, Yuliyani, L., Hildawati, & Dkk. (2023). *Metode penelitian kualitatif dan kuantitatif pendekatan metode kualitatif dan kuantitatif di berbagai bidang* (1st ed.). Sonpedia Publishing Indonesia.

Asimakopoulos, G., Antonopoulou, H., Giotopoulos, K., & Halkiopoulos, C. (2025). Impact of information and communication technologies on democratic processes and citizen participation. *Societies*, *15*(2), 40. https://doi.org/10.3390/soc15020040

Bennett, W. L., & Livingston, S. (2018). The disinformation order: Disruptive communication and the decline of democratic institutions. *European journal of communication*, *33*(2), 122-139. https://doi.org/10.1177/0267323118760317

Bhutto, F. (2024). Trust in public institutions: Causes of decline and ways to restore it. *Research Consortium Archive*, *2*(3), 123-131.

Caled, D., & Silva, M. J. (2022). Digital media and misinformation: An outlook on multidisciplinary strategies against manipulation. *Journal of computational social science*, *5*(1), 123-159. https://doi.org/10.1007/s42001-021-00118-8

Castells, M. (2010). Globalisation, networking, urbanisation: Reflections on the spatial dynamics of the information age. *Urban studies*, *47*(13), 2737-2745. https://doi.org/10.1177/0042098010377365

Chen, M. (2023). Angry Friends, Happy Crowd: How the Emotionally Charged Content Influences Online Behavior. *Lecture Notes in Education Psychology and Public Media*, *3*(1), 775-784. https://doi.org/10.54254/2753-7048/3/2022331

Davenport, T. H., & Prusak, L. (1998). *Working knowledge: How organizations manage what they know*. Harvard Business Press.

Deviyanti, N., & Putri, N. (2025). Pengguna internet di Indonesia tren tantangan dan peluang di era digital. *Maliki Interdisciplinary Journal (MIJ), 3*(Agustus), 604–608.

DOI: https://doi.org/10.71435/737846

Dewi, N. P. S., & Elfiandri, E. (2024). Overcoming Disinformation and Hoaxes in Political Communication: Promoting Media and Fact Literacy. *Journal International Dakwah and Communication*, *4*(1), 186-198. https://doi.org/10.55849/jidc.v4i1.663

Erik Saut Hatoguan Hutahaean, Pertiwi, Y. W., & Muminin, A. (2025). Hoaks dan pikiran manusia sebuah analisis psikologi kognitif Erik. *Indonesian Research Journal on Education, 5*(5), 691–696.

Faisal, G., & Eldi, R. P. (2025). Kewenangan pemerintah dalam mengatur kasus hoax di media sosial yang terjadi di Indonesia. *Journal of Artificial Intelligence and Digital Business (RIGGS), 4*(4), 4708–4714.

Floridi, L. (2014). *The fourth revolution: How the infosphere is reshaping human reality*. OUP Oxford.

Gwebu, K. L., Wang, J., & Zifla, E. (2022). Can warnings curb the spread of fake news? The interplay between warning, trust and confirmation bias. *Behaviour & Information Technology*, *41*(16), 3552-3573. https://doi.org/10.1080/0144929X.2021.2002932

Ibrahim, A. M. (2025). The impact of fake news and cloned online pages on media credibility, public trust and societal cohesion in Nigeria: Solutions and practical and theoretical implications. *New Media and Mass Communication*. https://doi.org/10.7176/NMMC/107-01

Juditha, C. (2018). Interaksi komunikasi hoax di media sosial serta antisipasinya. *Jurnal Pekommas, 3*(1), 31–44.

Kahneman, D. (2011). Fast and slow thinking. *Allen Lane and Penguin Books, New York*, *2*.

Kumar, S., Verma, A. K., & Mirza, A. (2024). Digital transformation and knowledge economy. In *Digital Transformation, Artificial Intelligence and Society: Opportunities and Challenges* (pp. 59-72). Singapore: Springer Nature Singapore. https://doi.org/10.1007/978-981-97-5656-8_4

Kurnia, N., & Astuti, S. I. (2017). Peta gerakan literasi digital di Indonesia studi tentang pelaku ragam kegiatan dan kelompok sasaran. *Informasi: Kajian Ilmu Komunikasi, 47*(2), 149–166. https://doi.org/10.21831/informasi.v47i2.16079

Laila, U., Lasan, B. B., & Hidayah, N. (2020). Berpikir kritis atas informasi hoaks di media sosial bagi siswa tingkat SMA. *Jurnal Pendidikan Humaniora, 8*(3), 124–133.

Lewandowsky, S., Ecker, U. K., & Cook, J. (2017). Beyond misinformation: Understanding and coping with the "post-truth" era. *Journal of applied research in memory and cognition*, *6*(4), 353-369. https://psycnet.apa.org/doi/10.1016/j.jarmac.2017.07.008

Maani, N., Kim, K., van Schalkwyk, M. C., Petticrew, M., & Zenone, M. (2025). The politics and profit of disinformation in public health. *Annual Review of Public Health*, *47*. https://doi.org/10.1146/annurev-publhealth-071723-124408

Macassa, G. (2022). Can the interconnection between public health and social work help address current and future population health challenges? A public health viewpoint. *Journal of Public Health Research*, *11*(2), 22799036221102653. https://doi.org/10.1177/22799036221102653

DOI: https://doi.org/10.71435/737846

Martin, A., & Grudziecki, J. (2006). DigEuLit: Concepts and tools for digital literacy development. *Innovation in teaching and learning in information and computer sciences*, *5*(4), 249-267. https://doi.org/10.11120/ital.2006.05040249

Mason, N. (2022). Research methods. *Metode Penelitian Kualitatif, 1*(17), 43.

Mehra, J., Madaan, S., Balu, N., Selvakumar, P., & Manjunath, T. C. (2025). The ubiquitous internet and smart computation available 24/7 for anyone and anywhere. In *Educational AI humanoid computing devices for cyber nomads* (pp. 247-270). IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-3693-8985-0.ch010

Muhajirin, Risnita, & Asrulla. (2024). Pendekatan penelitian kuantitatif dan kualitatif serta tahapan penelitian. *Journal Genta Mulia, 15*(1), 82–92.

Obasi, H. U. (2025). The role of media literacy in combating misinformation: Exploring the effectiveness of media literacy programs in enhancing critical thinking skills and reducing the spread of false information: A literature review. *MRS Journal of Arts, Humanities and Literature*, *2*, 1-5.

Pennycook, G., & Rand, D. G. (2019). Lazy, not biased: Susceptibility to partisan fake news is better explained by lack of reasoning than by motivated reasoning. *Cognition*, *188*, 39-50. https://doi.org/10.1016/j.cognition.2018.06.011

Putri, A. P., Ghaisani, F. A., & Repka, V. R. (2025). Analisis pemahaman literasi digital mahasiswa Universitas Lia di era transformasi digital. *Media Digital, 1*(1), 33–44.

Rachmawati, T., Yasmin, S., Meiyana, D., Yashaka, D. A., & Rochman, S. (2025). Dinamika minat digital media berita online pada momentum debat pemilihan Presiden Indonesia 2024. *Comdent: Communication Student Journal, 3*(1), 172–188. https://doi.org/10.24198/comdent.v3i1.63028

Rizki Fahreza, A. (2025). Pelaksanaan kewenangan Dinas Komunikasi Informatika Statistik dan Persandian Kota Pekanbaru mencegah penyebaran hoax media sosial di Kota Pekanbaru tahun 2024. *JOM FISIP, 12*(1), 1–13.

Safitri, D., Saufi, A., Putra, D., & Sakti, B. (2022). Penerapan analisis konten kualitatif pada studi revisit intention wisatawan Muslim ke Lombok dalam konteks pariwisata halal. *Jurnal Magister Manajemen Unram, 11*(4), 308–320. https://doi.org/10.29303/jmm.v11i4.740

Saini, N., & Mir, S. A. (2023). Social Media: Usage And The Impact On Education. *Journal of Namibian Studies*, *33*.

Sarjito, A. (2024). Hoaks disinformasi dan ketahanan nasional ancaman teknologi informasi dalam masyarakat digital Indonesia. *Journal of Governance and Local Politics (JGLP), 6*(2), 175–186. https://doi.org/10.47650/jglp.v6i2.1547

Shahzad, K., & Khan, S. A. (2024). Relationship between new media literacy (NML) and web-based fake news epidemic control: a systematic literature review. *Global Knowledge, Memory and Communication*, *73*(6-7), 956-983. https://doi.org/10.1108/GKMC-08-2022-0197

Shehata, A. (2025). Misinformation And National Security: An Integrated Framework For Threat Analysis And Institutional Resilience. *Journal of Strategic and Defense Studies (JSDS)*, *1*(1). https://doi.org/10.66209/jsds.2025.458

DOI: https://doi.org/10.71435/737846

Surjatmodjo, D., Unde, A. A., Cangara, H., & Sonni, A. F. (2024). Information pandemic: A critical review of disinformation spread on social media and its implications for state resilience. *Social Sciences*, *13*(8), 418. https://doi.org/10.3390/socsci13080418

Suryadi, U., Khikmawati, N., & Farah, N. (2025). Adaptasi perusahaan media konvensional ke era digital studi pada Radar Cirebon. *Journal of Innovative and Creativity, 5*(2), 6445–6455. https://doi.org/10.31004/joecy.v5i2.1015

Talukder, M. I. A., & Rahaman, M. (2023). The role of social media and confirmation bias in victimization: Information consumption and opinion polarization. *International Journal of Emerging Trends in Social Sciences*, *15*(2), 53-67. https://doi.org/10.55217/103.v15i2.714

Undari Sulung, & Muspawi, M. (2024). Memahami sumber data penelitian primer sekunder dan tersier. *Jurnal Edu Research Indonesian Institute for Corporate Learning and Studies (IICLS), 5*(September), 110–116.

van Zanden, J. L. (2023). Examining the relationship of information and communication technology and financial access in Africa. *Journal of Business and Economic Options*, *6*(3), 26-36.

Wardle, C., & Derakhshan, H. (2017). *Information disorder: Toward an interdisciplinary framework for research and policymaking* (Vol. 27, pp. 1-107). Strasbourg: Council of Europe.

Wei, L., Gong, T., Huang, C., Zhang, Z., Sha, W. E., Chen, Z. N., ... & Yuen, C. (2026). Electromagnetic information theory for holographic MIMO communications. *IEEE Communications Surveys & Tutorials*. https://doi.org/10.48550/arXiv.2405.10496

Wineburg, S., & McGrew, S. (2019). Lateral reading and the nature of expertise: Reading less and learning more when evaluating digital information. *Teachers College Record*, *121*(11), 1-40. https://doi.org/10.1177/016146811912101102

Wright, M. F. (2025). Misinformation, disinformation, and fake news. In *Research Handbook on Cyberpsychology* (pp. 315-331). Edward Elgar Publishing. https://doi.org/10.4324/9781003111474-4

Xu, F., Zhang, J., Gao, C., Feng, J., & Li, Y. (2023). Urban generative intelligence (ugi): A foundational platform for agents in embodied city environment. *arXiv preprint arXiv:2312.11813*.

DOI: https://doi.org/10.71435/737846