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Artificial Intelligence Journalism in Indonesia's Media Business Model

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Abstract

This article aims to investigate the potential application of artificial intelligence (AI) business processes in online journalism practice in Indonesia. The rapid development of AI technology provides new pathways for business model innovation in digital journalism platform enterprise. Kompas.com and Tempo.co are two media institutions chosen based on two criteria. First, the media background and history show that the two media have a long track record. Second, the ranking carried out by the Reuters Institute in 2023 shows that the two media are a reference for the audience in searching for information. This research uses the concept of Simon (2024), which formulates four important aspects in new business models that replace conventional business models. The four aspects of the media business model are access and information, selection and filtering, processing and editing, and publication and distribution. The concept of Simon (2024) attempts to identify the potential integration of AI into journalism business media practice, that has led stakeholders to respond its case by creating a more comprehensive regulatory framework which consists of various practices aimed at evaluating, identifying, and exploring technological developments. This research highlights AI's role in enhancing newsroom resource allocation and improve decision-making procedures and amplifies their accuracy and reliability. The result of this research shows that there are differences in the use of AI in the media business in Indonesia. Kompas.com utilizes AI in most of its business model, whereas Tempo.co still bases its journalism process on conventional mechanisms involving humans.

Keywords*: Artificial Intelligence, Online Journalism, Media Business Model*

INTRODUCTION

The concept of Artificial Intelligence (hereafter AI) in journalism was introduced by Philip Meyer in his 1973 article titled *Precision Journalism*. The article examines the scientific heritage of employing social research methodologies in journalistic practice (Gehrke, 2017, p. 5). This innovative approach is referred to as the utilization of computers as a journalistic instrument (Noain-Sánchez, 2022, p. 105; Gehrke & Mielniczuk, 2017, p. 5). In journalism field, AI utilizes technological advancements to assist journalists in their functions as an intermediary in the newsroom, bridging the creation and presentation cycles of news (Antasari et al., 2022, p. 309). For sure, AI plays an essential role for humanity regarding human rights, democracy, environmental sustainability, and equitable growth (Berger, 2023, p. 10).

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In the article entitled Journalists Need to Know about New Technologies, Beckett (2023), discusses the ramifications of AI's emergence in journalism. He asserts that the integration of AI can enhance the efficiency, effectiveness, and engagement of the journalism process; however, AI indicates a risk of bias related to technological ownership, causing a challenge for media organizations to invest in new competencies and workflows. The utilization of AI presents capacity to facilitate news publication using programming languages, reduce potential data bias, and generate personalized preferences to engage readers. AI is perceived as having the potential to transform the commercial model of media management. Buntić & Damić (2021, p. 3) assert that AI facilitates the integration of organizational resources with many stakeholders, including governmental entities.

Currently, the transformation of conventional journalism institutions to digital business affects three elements: (1) AI enhances the creation of journalistic content, (2) AI has the potential to supplant journalistic functions, and (3) AI assists in fostering audience engagement (Sánchez, 2022, p. 105). The discourse around media business models grew with the advent and evolution of the digital ecosystem. Kawashima (2020) asserts that the media business model is seeing substantial transformations. Picard (2011) constructed a model illustrating the news production process in the digital age. The methodology established by Picard has four essential stages: data and information collection and composition; editing and layout; production; and distribution. Each stage is conducted electronically. In this particular context, certain processes are now executed by AI.

Similarly, Simon (2024) identifies four critical dimensions of AI application: access and information; selection and filtering; processing and editing; and publication and distribution. Simon's (2024) perspective offers insight into this research. The four aspects developed possess distinct emphases. The initial component highlights the development of AI adoption inside the media industry. This exposition centers on three crucial terms: adoption, motive, and efficiency. The second part focuses on the application of AI in shaping journalistic outputs. The third part emphasizes the technical procedures involved in production and editing. The fourth aspect illustrates the importance of AI in publishing and dissemination. The concept of Simon forms the research framework to conduct the idea of media landscape and identificate the news industry towards AI technology; it is proceeds within a claim that the transformative influence of AI affected the society despite significant global political and economic upheaval.

Numerous studies on AI in journalism can be classified into various categories. The category that analyzes the use of AI, accountability, and ethical issues (Sánchez, 2022; Amran, S. O., & Irwansyah, 2018; Diakopoulos, 2017; Dörr, 2017). The category that examines trends and forecasts in AI utilization (Newman, 2023; Putranto, A., & Utoyo, A. W., 2024). The category that analyzes the consequences of the changing journalism landscape due to AI integration (Thomas, R. J., & Thomson, 2023).

This study pertains to the initial category, specifically the utilization of AI in journalism. This study examines the connection between AI utilization and business models in two Indonesian media institutions, Kompas and Tempo. This analysis centers on the cases of two media institutions by examining the media business models employed in Indonesia. This study aims to distinguish itself from prior research on AI.

The two selected media entities, Kompas and Tempo, represent a significant historical legacy in Indonesia. Both originate from conventional journalism and have expanded their business networks beyond their primary focus into commercial real estate and the diversification of journalism products towards digital media (Lim, 2013, p. 1). Kompas categorizes media management into two distinct types: conventional media management and digital media management. Tempo opts for a unified management system to generate both traditional and digital journalism outputs.

This study aims to address the following question: How is AI implemented inside the media business model in Indonesia? This study seeks to elucidate the application of AI inside the media business model in Indonesia, focusing on two specific media organizations: Kompas.com and Tempo.co.

THEORETICAL FRAMEWORK

John McCarthy first introduced the concept of AI in 1956. Scholars continue to debate the exact concept and significance of AI today. AI is transforming the field of online journalism by enhancing the processes of news production and personalization (Lokeswari & D, 2025). Kawamoto (2003), offers another concept related to this discourse, positioning digital journalism as a practice in the context of journalism that has emerged from the proliferation of information. At this stage, new platforms or innovations have influenced the way journalists and their organizations carry out their routines. This influence begins when journalists collect data, compile plots or information flows, and produce outputs known as news.

All forms of journalistic and media activities that intersect or closely relate to innovations in *information and communication technology* are the focus of digital journalism. On the other hand, online journalism emphasizes the platforms media that used in the digital journalism process.

Kawamoto's understanding reveals that online journalism is a component of digital journalism. Meanwhile, digital journalism is a conceptualization that encompasses all forms or practices of online journalism that utilize innovations in information and communication technology. Another perspective related to *algorithm-based news writing* was presented by Konstantin Nicholas Dörr (2017). This term also has the same meaning as *automation journalism*. Both terms also refer to robot journalism and are interpreted as *machine-written journalism*; it used to compile news from structured data automatically; writing relies on the availability of data and topics that appear repeatedly. Currently, algorithms are essential in demonstrating how machines can perform news writing automatically.

METHOD

This section contains a description of the methods used in the research, including scientific characteristics, materials, tools, location, research time, data collection techniques, and data analysis. All of these elements are explained in detail as undivided subchapters.

This study uses a qualitative approach because of its advantage in producing in-depth data. Meanwhile, the case study method is used in this study. Gering (2007, p. 27) states that a case study is an intensive study of a single case, where the purpose of the study is, at least in part, to explain a larger class of cases (a population).

The objects of this research are two online media outlets in Indonesia, namely Kompas.com and Tempo.co. These two media outlets were selected based on several considerations. First, both media outlets have a long history because they are based on conventional media businesses. Specifically, Kompas and Tempo are known to have chosen different paths in managing their media businesses. Kompas divides its business lines by separating conventional and digital divisions. This division has resulted in several new business units within Kompas media business environment. Meanwhile, Tempo consolidates its business management into a single entity. Second, based on research conducted by the Reuters Institute in 2023, these two media outlets are the top-ranked online media outlets that *users* refer to when searching for information.

The collection of research data was conducted through several methods, including secondary data documentation sourced from research findings, journals, and online data sources. In addition, structured interviews were conducted with three media representatives, namely PA (Principal Product Manager of KGMedia), AS (Editor-in-Chief of Kompas.com), and BH (Deputy Editor-in-Chief of Tempo), to gain an accurate representation of the utilization of AI within the media industry. In this study, three media representatives served as research informants. The selection of these three informants was based on considerations of their roles and authority within the media organizations. The primary data from the interviews was then classified and validated through observation of data content from two media institutions; a compilation of secondary data served to validate the perspectives shared by the informants.

The collected data were then classified using a research design developed by Simon (2024). This design focuses on four aspects of AI utilization in journalism, such as: access and observation; selection and filtering; processing and editing; and publication and distribution. After the data was classified, the final stage of this research was data analysis. Data analysis in this study used an interactive model conducted by Miles & Huberman (1994, pp. 50–85).

RESULT and DISCUSSION

Artificial Intelligence: Evolving Journalistic Practices

The profitability and humanistic approaches in cognitive and social aspects help AI *discover* the scope of journalism in combining media genres and conventional values that have become social norms, which remain valid today. Furthermore, the publication of news to the public conveys information about current events and social issues to the public. It is a historical phenomenon that the contemporary era allows everyone exposed to the internet to access information easily and quickly.

The idiom *speed kills you* (Adinata, n.d.) must be understood for media organizations to comprehend how to reconcile the rapidity of information dissemination with precise reporting. Currently, the media industry prioritizes the education, expertise, and enhancement of journalists technical skills in utilizing AI to navigate the forthcoming news landscape. The integration of AI technologies enables journalist to explore innovative business models by leveraging AI capabilities such as predictive analytics, automation, and personalization. The media intitutions can create new value propositions and monetize their data assets using innovative business models and revenue streams diversify organizations' sources of income and increase their resilience to market disruptions (Murire, 2024, p.8).

Journalists are expected to be able to provide relevant information in a *quick web browsing* format (Wihbey, 2019, p. 127). This two media institutions (Kompas.com & Tempo.co) navigate the complexities of integrating AI, facing the critical task of managing cultural transformation with strategic and sustained employee engagement. However, these shifts may also challenge existing cultural frameworks from each particularly in media institutions that value tradition and human-centric decision making. The application of AI also has the power to produce new forms of news combined with journalistic professionalism (Wihbey, 2019, p. 129). Robot journalists are considered more reliable in processing and analyzing data. Robotorial generates news by transforming structured data into publishable content, contingent upon the data's availability and consistency (Putranto & Utoyo, 2022, p. 90). In robotic journalism, automation can do technical tasks, liberating journalists from repetitive duties. Organizing and verifying information is a demanding, time-intensive, and laborious task (Putranto & Utoyo, 2022, p. 92); However, human control in the AI news process is

essential (Maulana, 2023). Instead of focusing on the creative and imaginative aspects that humans possess, which cannot be replaced by robotics, journalists can focus on more *in-depth reporting.*

This section presents the research findings by dividing the presentation into four aspects of AI utilization in journalism, namely access & observation; selection & filtering; processing & editing; and publication & distribution. This classification refers to the model developed by Simon (2024), which categorizes the practice of utilizing AI in media institutions as follows:

Access and Observation

This first aspect is the upstream portion of the AI implementation process related to the dimensions of access and observation. This aspect involves efforts to map access and conduct observations, ensuring efficiency in the news writing process. In this process, efficiency is an important keyword for cutting unnecessary activities and finding the right format so that products/news can be read by Google's algorithm. Starting, Kompas.com undertook experiments in article generation via an AI-driven approach, as follows:

> "At Kompas.com, we started AI with limited experiments outside of Kompas.com. Because we wanted to see how the technology works, especially in Google's search engine, since the majority of online *website traffic* comes from Google search, our *treatment* was to test it on websites that outside of kompas.com, then we observed Google's response for 5 months, *with the setup* lasting 6 months" (Interview with AS, Editor-in-Chief of Kompas.com, July 29, 2024).

The experiment namely as Proof of Concept, conducting a trial *website* using a non-Kompas.com source to generate articles created by AI. That's actually to see if the articles are accepted by (1) users, and then by (2) Google as well, since most of human that connected on internet using Google as the source. The experiment shows that AI-generated articles got indexed by Google from an SEO perspective. In spite of that, Google's indexing process itself takes a several times—based on Kompas.com experience are six months. Meanwhile, they intentionally worried about potential violations, during that time, Kompas.com also began outlining the guidelines for implement the AI—what the guidelines should look like from a journalistic perspective and specifically from a technological standpoint. Currently, it divided into two categories: the first is automation, and the second is generated content.

The experiment produced by KGMedia (August, 2nd 2024) reveals AI production bots tools, that designed to collect, analyze, create, edit, or visualize, as well as automate news writing. Unfortunately, the experiment was conducted for the staff only (behind closed door) to prevent ethical violations and misguided information. This AI software is capable of identifying patterns and relationships between words in sentences, enabling sentence structures to generate relevant responses to *questions* and *prompts* from each user (Brainard, 2023, p. 379). During *data input*, AI algorithms adjust internal settings to enhance performance in response to user demand levels (Lee & Lee, 2020, p. 1). Therefore, *the user role* or human touch greatly influences the extent to which *the software* can learn the quality parameters of a sentence. Two types of data can be used to compile quality news: *first*, quantitative data, such as statistics; and *second*, qualitative data, which includes a series of facts and event *timelines* (Wahidar & Muradi, 2025, p. 118).

Kompas.com suggests evaluating multiple factors before endorsing the use of AI. Despite the advantages of AI, as a business unit, Kompas.com needs to conduct small experiments to map out and identify the right news format. The small experiments conducted by

Kompas.com are a novelty in the contemporary journalism process. In the production process, Kompas.com utilizes ChatGPT and Image Journey AI tools as a *Proof of Concep*t (PoC) to grasp the Google Index. These tools are intended to find out whether its journalistic products are accepted or rejected by Google's algorithm. At this stage, the PoC is carried out on different website pages. The aim is to avoid ethical violations.

Nevertheless, Kompas.com is *concerned* with maintaining its professionalism. One indicator is noticed when applying AI guidelines at this stage. Kompas.com applies stringent standards at this stage by implementing several things, such as (1) prompts*;* (2) draft creation; (3) undocking or dragging the PoC website*;* (4) consistency in writing theme and SEO; (5) video production using avatars; and (6) audience involvement for the Kompas.com *newsroom*.

Apart from that, articles generated by AI have two important characteristics, which are *automation* and *generated content*. Automation is used for *template-based,* general news, and readable data from search engines or information data centers. This process is named data *crawling*; the examples of generated articles include: reporting on events, the magnitude of earthquakes, and final sports match results.

In the early stages, AI was used to provide content recommendations. As technology has developed, the capabilities of AI have also grown. The most common form is the use of *machine learning* in *article recommendation* products. Furthermore, *machine* learning can study data based on the disciplines of (1) *statistics* and (2) *data mining* to analyze various types of data. At this point, there is a process that involves *input* from journalists and *gatekeeping* by editors. From the perspective of this process, journalists (called *reporters* or *authors)* obtain *input* information and then *submit* it to editors who are assigned as testers to determine the suitability of the information to be processed into news. As explained below:

> "All articles generated *by* AI must go through editor approval, and we are currently in the article flow." (Interview with PA, Principal Product Manager of KGMedia, August 2, 2024).

However, the usage of AI in terms of access and observation, from a quantitative perspective, found that around 30% of articles produced still contained grammatical errors. This fact poses a challenge for media institutions to improve the products generated by AI. AI is not always, or even completely, accurate. Errors or inaccuracies in the information contained therein have the potential to reduce the relevance of the content for readers.

> "AI provides the established knowledge, for example: What is communication science*?* How does media theory work? Well, that's really cool to use AI. On the other hand, AI fails to create contemporary content due to data limitations. Information related to politics is also not very in-depth and even contains a lot of false information. Information related to tourist locations also contains a lot of false information because it requires more data *fitting*." (Interview with AS, Editor-in-Chief of Kompas.com, July 29, 2024).

AI is not always, or even completely, accurate. Errors or inaccuracies in the information it provides have the potential to reduce the relevance of the content for readers (Kurnianti et al., 2024, p. 251). Another important point is that Kompas.com's experimental model in terms of access and observation has considered *journalism ethics*. This consideration stems from Kompas.com's overview that the publication of articles by AI still needs to be carefully considered because of the potential data errors and scientific misinterpretation.

Meanwhile, Tempo has a strong belief that AI has several shortcomings, including (1) *critical thinking* and (2) *analysis* of micro, macro, and structured texts. This phenomenon is referred to be instinctual nature or human nature, concepts that people may think about

widely. This premise directs Tempo's decision-making about the utilization of AI. While Kompas.com has chosen to use AI, Tempo has not yet fully implemented AI in *its main* news publishing *process*. Tempo maintains enthusiasm in conventional writing styles and journalistic procedures.

> "At Tempo, AI is only used for *supporting* work, not for the product itself. Tempo is a news outlet. Because we still doubt AI's ability to write news like humans, it's very *sensitive*. It seems that Tempo is still too far away from using AI because we have our own style of writing." (Interview with BH, Deputy Editor-in-Chief of Tempo, August 14, 2024)

Nevertheless, Tempo has essentially tried using AI. However, the content generated by AI was deemed unsuitable for Tempo's writing style and standards. This led Tempo to decide against using AI at this time.

> "We haven't attempted to use AI in product creation. For example, when ChatGPT appeared, we tried using AI. But it didn't suit our style. As AI, ChatGPT can't currently fulfill Tempo's needs for issue analysis; we prioritize the scientific analysis in the editorial template. We have editorial consultants; they are sociologists, legal experts, economists, etc. We prioritize human opinions over AI because AI seems to only combine what is available on the internet. The result is inconsistent." (Interview with BH, Deputy Editor-in-Chief of Tempo, August 14, 2024)

Tempo maintains that writing and analytical skills are inherent abilities in every person. The written form of news is an integral aspect of a creative endeavor; thus, AI-generated writing is inherently shallow. Consequently, Tempo employs AI exclusively in restricted operations, encompassing tasks such as monitoring, data transmission, and identification among user segments and activity on social media. A comparable viewpoint was articulated by AS, Editor-in-Chief of Kompas.com, who asserted that human capacities are dynamic and adaptable, indicating that humans can assimilate and comprehend updated information more effectively than machines. However, there is no denying that AI has the potential to improve human labor by automating tasks and utilizing technological activities.

Selection and Filtering

The aspects of selection and filtering essentially emphasize the use of AI in shaping journalistic outputs. At Kompas.com, the use of AI is significantly reliant on the principle of probability. This indicates that AI necessitates substantial expenditure for the implementation. In certain instances, Kompas.com determines that employing humans is more cost-effective than utilizing AI.

> "We still believe that, until now, human hosts are more attractive and engaging, a fact that the subscription price for custom AI hosts is more expensive than using humans; this includes entertainment, such as converting song lyrics into text." (Interview with AS, Editor-in-Chief of Kompas.com, July 29, 2024)

However, Kompas is developing its menu by integrating a *content management system* (CMS). This process begins by utilizing AI services, starting from the newsroom, creating outlines, coverage plans, and tutorials, and then editing articles from reporters (basic editing and explaining). Additionally, there are content moderation tools in a separate division. Moderation in this context refers to content that is corrected. This moderation primarily targets *user-generated content.* This process does not significantly impact the editorial team. As a result, the editorial team at Kompas.com still bears the responsibility for curation parts, such as reviewing *typos* and *human errors.*

Furthermore, regarding the selection and filtering of writing materials, Kompas.com still considers AI to have limitations. In principle, AI cannot be used to generate updated news, such as *breaking news*. This is because AI does not have *a* sufficient *database* of raw materials to write about. On the Kompas.com website, news items in the economic section contain significant risks when generated by AI; the potential bias and misinformation (in information tips, for example) can cause harm to others, similar to the health and science sections, which should not be executed using AI.

Meanwhile, Tempo maintains its claim that humans possess advantages that AI misses. In several activities in this aspect, such as information and data selection, Tempo still prioritizes and trusts the products that are produced by journalists.

> "We apologize for not being there yet, and it seems that we will not use it, because machine products are different from human products. So maybe we are still far enough from using AI to create news, analysis, and storytelling. For now, even writing newsletters and creating promotions is done by humans." (Interview with BH, Deputy Editor-in-Chief of Tempo, August 14, 2024)

Even so, there is a connection between the role of the editorial team and how AI produces data, particularly in terms of time efficiency during *peer review* (Munir, 2025). For instance, AI serves as a tool that helps journalists filter and organize information, enabling them to convey facts to the public more quickly. If such work were done manually, it would tend to be time-consuming and labor-intensive and resulting in a longer news publication cycle. As argued by PA, sorting and checking information is a time-consuming and energy-draining task, so the use of AI has its advantages for the editorial team.

Processing and Editing

The third criterion in this model is processing and editing. Specifically, when it comes to AI, news articles can be written by computers using algorithms. Writing news narratives using computer algorithms is also referred to as computational journalism—that is, news writing done by *computer-assisted reporting* (CAR) or robot journalists. Bots then locate and filter information from social media platforms and data banks, then provide guidance to editors regarding the credibility and contribution of the content (Thurman, 2019, p. 1). From an editor's perspective, computational journalism has significantly substituted the world of journalism. For example, the term *tech-savvy journalists,* who use their computing skills to shape modern journalistic practices, have helped create new editorial guidelines and negotiate how journalistic values such as impartiality can be applied at the BBC (Lischka et al., 2023, p. 1030).

However, AI fails to create content that is relevant to current events, for example when it comes to assist data or report on current event. This is due to its limitations in terms of its database and related information (Interview with AS, Editor-in-Chief of Kompas.com, July 29, 2024). Based on these facts, Tempo.co has chosen a different policy in utilizing AI. Tempo.co asserts that the implementation of AI is still in its early stages. They still see the primary role of humans in this process. This implies that humans (the journalist)—not AI, that executing their duty to compile and analyze news.

> "Our editorial may still be far away, in terms of using AI to create news and make analysis." (Interview with BH, Deputy Editor-in-Chief of Tempo, August 14, 2024)

From a news writing perspective, Tempo.co does not have a specific template. Tempo.co has a firm argument that every journalist has their own writing style that will eventually be aligned with the style applied at Tempo.co.

> "We don't have templates. Because it's part of style, there are no templates for writing. Writing is part of a person's skill set. We believe that writing is a creative process, not repetitive, like what AI does." (Interview with BH, Deputy Editor-in-Chief of Tempo, August 14, 2024)

In this case, both Tempo.co and Kompas.com show a similar framework, where news-editing desks are carried out by editors or an editorial team. However, the considerations are not how advanced the technology is, but how effective it is.

> "That's right, we hope that editors themselves can focus more on other, essential tasks. Perhaps instead of editing itself, which can be done by the editorial team…" (Interview with PA, Principal Product Manager at KGMedia, August 2, 2024)

According to PA, the manual judgment and AI labeling by the Kompas.com editorial team reflect the principles of ethical journalism. Consequently, any publication generated by AI should be explicitly labeled as such. Regarding the verification process, the media continues to prioritize any field verification. This method is still regarded as the most effective means of assessing the validity of information.

> "What I mentioned earlier about verification and validation is not accomplished by AI but manually, it's human taste; we must go within the field." (Interview with AS, Editor-in-Chief of Kompas.com, July 29, 2024)

A series of effective verification and validation processes above enhances the credibility of data and the accuracy of news stories. This process ensures that news can be meaningful, provide valuable insights, and credibly convey ideas within a fast-paced length in ecosystem of media technology.

Publication and Distribution

The final criterion in the model developed by Simon (2024) is publication and distribution. The emphasis of this fourth criterion lies in observing the use of AI in the context of information dissemination/publication and distribution. Theoretically, AI has a very broad role in the context of distribution and publication. Basically, AI can perform moderation, personalization, and audience analysis.

From a practical standpoint, the use of AI is not yet fully optimized. Media organizations use AI where they deem it necessary. Kompas.com, for example, sees that AI has many limitations when it comes to writing news articles and replacing the role of humans. AI only has credibility in the process of publishing content for which the data is already available. This step is different from the process of writing news articles, especially when it comes to gathering facts. In this case, Kompas.com sees that AI only has a certain role in the publication process.

> "AI is solely reliable for generating original content, only on certain topics, especially those related to *established* scientific knowledge." (Interview with AS, Editor-in-Chief of Kompas.com, July 29, 2024).

Both media firms focus on personalizing AI. Kompas.com primarily monitors the topics that interest its audience. Additionally, Kompas.com tracks when users engage with its content.

> "Well, we understand, the personalization may be more visible for those who are not *logged* in; for those who aren't users, we may focus more on topics, such as giving people suggestions, so it doesn't really feel like a personalization mode." (Interview with PA, Principal Product Manager of KGMedia, August 2, 2024)

Meanwhile, Tempo.co, although practicing personalization, has a slightly different emphasis. Tempo.co is more concerned with developing algorithms that can map the factors that build readers' interest in a news story. In short, personalization is built to find out what readers like.

> "...we have an algorithm that can map what these users like from an AI database." (Interview with BH, Deputy Editor-in-Chief of Tempo, August 14, 2024)

This mapping is used to determine user status and enhance the efficient delivery of information. Tempo has developed an algorithm that enables accurate outreach to individuals. Kompas.com has adopted a comparable approach to personalization through a *single sign-up* process. The algorithm can identify reader preferences based on the provided input data.

> "Well, that *single sign-up* at the sign-in process makes the registration more personalized than those that are not, its reason due to adjust preferences." (Interview with PA, Principal Product Manager at KGMedia, August 2, 2024)

Journalists can leverage AI to generate profound information by analyzing consumer behavior to enhance content relevance and optimize algorithm recommendations. This approach is referred to as content personalization and recommendation tools (Mahendra, G.S., et al., 2024). Content personalization enhances customer engagement and satisfaction, a concept known as engagement preference (Wasilewski et al., 2025). This indicates that AI identifies algorithm patterns based on user preferences and subsequently creates more engaging and effective content (Nedungadi et al., 2025).

The more significant the changes prompt in generative AI (gen-AI), the more tailored the news format becomes for users (Arguedas, 2025). This aspect has emerged as a crucial element in media business experiments in today's landscape (Benson et al., 2022). Nevertheless, despite the transformative impact of personalization within the media industry, the foremost concern remains the ethical use of AI bots to responsibly address user needs.

CONCLUSION

This section draws several conclusions based on the research findings and discussions in the previous sections:

The use of AI is already a common practice among media institutions in Indonesia. The first wave of AI utilization took advantage of the momentum of *big data*, while the subsequent wave emerged after the emergence of several artificial intelligence applications, such as ChatGPT.

Although not comprehensive, several current media practices have been carried out using AI. AI facilitates almost all four criteria that form the basis of this study. However, the managers of Kompas.com and Tempo.co have chosen two different approaches. In this context, Kompas uses AI in news production.

The use of AI in the editorial department has greatly helped Kompas.com with its marketing expansion. Kompas utilizes AI in several research criteria. Tempo.co, on the other hand, does not use AI at all despite holding on to its idealism by placing trust in journalists. Tempo believes that writing is *a skill* that cannot be replaced, even with the use of AI.

For the closing statement, further research pointed out transparency and human oversight in AI-driven business models for editorial production that utilize software, grounded in the principles of journalism ethics.

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