The Symbiotic Evolution of AI and Media: A Technological Leap in Knowledge Sharing and Decision-Making

Faerozh Madli[1], Mat Salleh@Salleh Wahab[1,*], Dean Nelson Mojolou[1], Yuzainy Janin[1], Ag Kaifah Riyard[1], Suddin Lada[1], Christian Wiradendi Wolor[2], Khairunisah Kamsin[3]

[1] Faculty of Business, Economics and Accountancy, University Malaysia Sabah, Kota Kinabalu, Sabah, Malaysia
[2] Department of Digital office, Universitas Negeri Jakarta, Jakarta, Indonesia
[3] Management and Science University, Kota Kinabalu, Sabah, Malaysia

ARTICLE INFO	ABSTRACT
	Artificial Intelligence (AI) is more than just an innovation, it is a force reshaping how information flows through society. But how does this impact on media communication? This study uncovers the answer. AI is no longer a new or unfamiliar concept in today's world. Its widespread use across almost every industry highlights its growing influence. AI adoption has largely had a positive impact, driven by various factors. One of the most significant is its role in information dissemination. However, the dynamics of this relationship remain unclear. This study explores the symbiotic relationship between AI and media communication, examining how AI shapes and enhances the flow of information. Additionally, this symbiotic relationship is examined in the context of a crucial global concern which is public health. The findings reveal that AI and media technology work together harmoniously to provide individuals with essential information, empowering them to make well-informed decisions more quickly. In this essence, this research highlights how AI, when integrated with media technology, serves as a powerful tool for knowledge sharing within society. Additionally, the insights from this study offer valuable implications for various stakeholders, particularly those navigating the rapid evolution of AI-driven technologies. Understanding these dynamics can help industries and policymakers maximize AI's potential for relevance benefits.

1. Introduction

Artificial Intelligence (AI) has evolved from a niche technological innovation into a transformative force with widespread implications across industries. In the field of media and communication, AI has fundamentally altered how information is created, distributed, and consumed. Automated news generation, real-time content translation, and personalized recommendation systems are now integral parts of media landscapes worldwide [1]. These technological advances are not isolated, rather, they represent a broader systemic shift where AI and media practices are becoming

---

increasingly intertwined. This convergence is particularly critical in the domain of public health communication, where rapid and accurate information dissemination can save lives.

In addition, the outbreak of the COVID-19 pandemic underscored the urgency of reliable and scalable communication systems. AI-powered platforms such as BlueDot demonstrated the ability to detect early signals of outbreaks by analyzing diverse data sources, providing alerts before major health organizations [2]. Similarly, conversational AI tools, including chatbots and generative language models, have been deployed to counter misinformation and deliver tailored guidance to different linguistic and cultural communities [3]. Collectively, these applications illustrate how AI and media technologies can function in a complementary and mutually reinforcing manner, strengthening knowledge dissemination and enabling individuals to make decisions that are both timely and informed.

Despite such promising developments, the dynamics of this AI–media relationship remain insufficiently discussed. Much of the existing scholarship tends to examine AI's impact either on media production or on media consumption in isolation, with limited attention to the reciprocal and interdependent nature of their interaction [4]. For instance, AI algorithms actively shape media content through mechanisms such as personalization, automated curation, and content generation, yet at the same time media platforms and audience behaviors exert a considerable influence on the ways AI systems are designed, trained, and adapted. This two-way interaction indicates a process of co-evolution, one that is more appropriately characterized as a symbiotic relationship rather than a simple unidirectional influence.

Scholars have increasingly sought to conceptualize these evolving dynamics through the development of emerging models. [4] for instance, introduced the IMAGINE model, which conceptualizes AI-mediated communication as a feedback system in which content creation and audience measurement remain dynamically interconnected. Along similar lines, [1] emphasized the expanding role of AI in shaping content creation, personalization, and immersive media experiences, while at the same time cautioning that such advancements may also bring ethical challenges and potential disruptions to labor structures. Within the specific context of health communication, recent reviews have highlighted the capacity of generative AI tools to facilitate knowledge translation, improve multilingual accessibility, and reinforce the bridge between domain experts and the broader public [5]. Nevertheless, parallel risks including the spread of misinformation, the proliferation of deepfakes, and the erosion of public trust in institutions pose significant concerns that demand careful consideration [6].

Therefore, this study seeks to address these gaps by examining the symbiotic evolution of AI and media communication, with particular attention to public health contexts. The objectives are threefold. First, it investigates how AI technologies are embedded within media infrastructures to enhance the speed, personalization, and reach of information dissemination. Second, it analyzes the influence of media logics such as audience engagement metrics and established communication norms on the development and deployment of AI tools. Third, it explores how the integration of AI within the media ecosystem affects health-related communication.

Moreover, the significance of this study lies in its interdisciplinary contribution. Academically, it advances theoretical discussions by framing AI and media as co-evolving systems, thus moving beyond linear cause-effect frameworks. Practically, it offers guidance for media practitioners, healthcare communicators, and policymakers seeking to maximize the benefits of AI integration while mitigating risks. Societally, it underscores the potential for AI-driven media systems to empower individuals in making informed decisions, thereby fostering resilience in the face of global challenges.

Penerbit
Akademia Baru

2. From praxiography of media to digital media praxiography

Praxiography, in its classical formulation, refers to the study of practices, specifically how activities are performed, sustained, and rendered meaningful within social and cultural contexts. Within the field of media studies, this perspective has been applied to explore the ways individuals and groups interact with media, not merely as technological artifacts or textual products, but as practices situated in the routines of everyday life [7]. It underscores the notion that communication encompasses more than the transfer of information; it also involves embodied actions, recurring routines, and cultural norms that collectively shape the meaning of media use [7]. For instance, early investigations of media praxiography examined practices such as families watching television together, journalists constructing news stories, and communities incorporating radio into daily life [8]. Such studies demonstrated that media consumption and production are deeply embedded within social environments, identities, and interpersonal relationships, thereby shifting scholarly attention away from technological determinism and toward a practice-oriented approach to analysis.

As digital technologies increasingly reshaped communication processes, the praxiographic perspective developed into what scholars now identify as digital media praxiography [8, 9]. This expanded framework seeks to examine how digital infrastructures, algorithms, and platforms fundamentally transform the enactment of media practices. In contrast to earlier media forms, digital systems function not as passive instruments but as active mediators that intervene in and structure communication flows. Mechanisms such as algorithms, recommendation engines, and machine learning models now co-organize practices of information seeking, content sharing, and audience interaction [9]. For example, the seemingly simple act of scrolling through a news feed can no longer be regarded as a neutral or individual practice; rather, it is shaped by algorithmic predictions regarding which content is most likely to sustain attention, elicit emotional responses, or optimize advertising revenue [10]. Consequently, digital media praxiography requires analytical attention to both human and non-human actors that jointly co-produce the media experience.

This shift is particularly evident in contemporary media landscapes that are increasingly dominated by artificial intelligence. Within traditional praxiography, agency was understood to reside primarily in human actors, including media producers, journalists, policymakers, and audiences. In contrast, digital media praxiography acknowledges that AI systems themselves exercise a form of agency by shaping the visibility, circulation, and credibility of information [11]. A prominent illustration of this is found in platforms such as TikTok and YouTube, where AI-driven recommendation systems determine which videos are presented to users, thereby producing echo chambers or viral trends not solely through human editorial decisions but through algorithmic calculations of relevance and engagement [12]. In the context of public health, this transformation becomes even more pronounced. AI-powered chatbots, predictive analytics, and automated content moderation now play central roles in determining how health-related information is disseminated, which narratives gain prominence, and which forms of misinformation are curtailed [13]. Collectively, these examples underscore the argument that communication practices in the present era cannot be adequately understood without accounting for the active role of algorithms and AI in structuring social practices.

The foundations of digital media praxiography also provide a useful framework for understanding the growing entanglement of media and AI in contexts of heightened urgency, such as public health crises. During the COVID-19 pandemic, practices of health communication were reshaped through digital systems that incorporated AI tools into processes of information dissemination. Platforms introduced automated fact-checking mechanisms, employed natural language processing to detect and counter misinformation, and deployed chatbots capable of

addressing user queries across multiple languages [14]. For ordinary citizens, the search for information on symptoms, vaccines, or preventive measures no longer relied exclusively on traditional media outlets but increasingly involved interaction with AI-mediated interfaces. These emerging digital practices blurred the distinction between human-driven communication and machine-driven mediation, illustrating how AI and media systems operate together in shaping decision-making processes. Viewed through a digital praxiographic lens, such developments extend beyond the notion of technological solutions and can instead be understood as new everyday practices of knowledge exchange and trust-building.

In addition to creating new opportunities, digital media praxiography also highlights the risks and challenges inherent in AI-mediated practices. The same algorithms that enable the personalization of health information may simultaneously amplify misleading content, generate deepfakes, or promote conspiracy theories [6]. This dual capacity underscores that AI cannot be regarded as a neutral instrument but rather as a practice-shaping actor with significant ethical and social implications. For instance, deepfake videos concerning vaccines or fabricated health guidance have circulated widely across social platforms, thereby complicating the development and implementation of public health communication strategies. Within a praxiographic proses, these phenomena may be interpreted as emerging practices of misinformation practices co-produced through the interaction of AI systems, user behaviors, and platform logics. Addressing such challenges requires moving beyond traditional models of media studies toward perspectives that explicitly foreground the entanglement of human actors, technological systems, and communicative practices.

By extending the scope from a praxiography of media to a digital media praxiography, scholars and practitioners are better equipped to conceptualize the symbiotic relationship between AI and media communication. Within this perspective, AI is not regarded as an external technological addition to media but rather as an integral component of communicative practice itself. Contemporary communication is constituted through the ongoing interaction of human actors, institutional frameworks, and algorithmic systems, all of which evolve in relation to one another. For the purposes of this study, the adoption of a digital media praxiographic lens offers a conceptual foundation for analyzing how AI contributes to the dissemination of knowledge and the facilitation of decision-making, while at the same time reshaping the norms and expectations of communication. This approach makes it possible to interpret the current technological leap not merely as a process of innovation but as a transformation in the very practices through which societies exchange knowledge and construct meaning.

3. Approach protocol for this research

This study adopts a conceptual research design grounded in a secondary research approach. Since Artificial Intelligence (AI) and media communication are evolving fields characterized by rapid technological development and scholarly debate, relying on secondary sources is not only practical but also methodologically appropriate [15]. By drawing from previously published works, this study seeks to synthesize existing insights on how AI shapes media communication, particularly in the domain of public health, while identifying emerging conceptual linkages that can guide future empirical inquiries. Rather than generating primary data, the emphasis is on interpreting and weaving together diverse perspectives across disciplines, ranging from media studies and information science to health communication and computer science.

To achieve this, the study applies a narrative review approach. Unlike systematic reviews that primarily aim to quantify evidence, narrative reviews provide the flexibility to integrate findings across varied contexts, allowing for a more holistic understanding of the relationship between AI and

media practices [16]. This approach is suitable given the exploratory aim of the study: to highlight how AI is reshaping the flow of information in society, particularly through the lens of media and public health communication. The review draws on literature accessed through multiple databases, including Scopus, Web of Science, Google Scholar, and PubMed. These databases were selected because they represent a balance between multidisciplinary coverage (Scopus and Web of Science) and specialized knowledge in healthcare and public health communication (PubMed). Google Scholar was included to capture additional cross-disciplinary works that may not always be indexed in subscription-based databases. These studies represent diverse perspectives, with contributions from media studies, health communication, computer science, and information systems. This iterative process of literature selection ensured both breadth and depth of coverage, balancing the inclusion of seminal works with more recent studies that reflect the latest developments in AI-driven media practices. The outcome is a comprehensive body of knowledge that informs the conceptual insights and implications of this study.

4. Media as coordinator

The concept of "media as coordinator" serves as a pivotal framework for understanding the intricate relationships among artificial intelligence (AI) technologies, public health institutions, policymakers, and the general public. In this context, "media as coordinator" signifies the role of media platforms in facilitating communication and interaction among these stakeholders, acting not merely as passive channels of information but as dynamic mechanisms that foster coordination in both informational exchanges and decision-making processes. This aspect of media's coordinating role is crucial in contemporary contexts, particularly within public health scenarios where timely and accurate information dissemination can significantly affect collective outcomes.

Media operates as a linking mechanism, ensuring that essential information related to AI applications in public health is effectively transmitted to a variety of audiences [1]. By curating and contextualizing complex data generated by AI technologies, media not only broadcasts information but also plays a crucial role in shaping public understanding and responses to health-related issues [1]. For instance, during the COVID-19 pandemic, numerous media outlets utilized AI-driven technologies to curate real-time updates, thus becoming vital conduits for public health communication. AI-powered dashboards, such as the Johns Hopkins tracker, exemplified this coordination by aggregating data and making it accessible, allowing individuals and organizations to act swiftly based on reliable information [17]. Furthermore, media plays a vital role in bridging the gap between vast stores of "big data" and public comprehension, ensuring that critical public health information is not only disseminated but also understood in a meaningful way [18, 19].

The coordination of information flows facilitated by media extends into the realms of stakeholder engagement [20]. Media platforms serve as mediators among experts, government authorities, and citizens, effectively translating complex AI-driven analytics into digestible formats suitable for various audiences. For example, the World Health Organization (WHO) has engaged in partnerships with AI-enhanced media campaigns to combat misinformation, demonstrating the essential function of media in harmonizing messages from scientific experts and public health officials to the broader community [20]. In this context, media acts as a translator, transforming intricate AI-generated data into actionable insights that guide both policymakers and community members toward informed decision-making.

Furthermore, the role of media in coordinating public health awareness cannot be overstated. AI technologies have demonstrated a remarkable capacity for personalizing content; however, it is the media that coordinates the reach of this content to build trust among the public. Chatbots and

AI assistants, which are increasingly deployed to provide health advice, often require media framing to enhance their credibility and facilitate acceptance among users. For instance, research highlights how mass media platforms have framed AI tools as reliable sources of health information, effectively coordinating public trust and facilitating the adoption of technologically advanced health solutions [18, 19]. This interplay reflects a symbiotic loop where AI generates insights, and media actively coordinates their dissemination and societal acceptance, creating an ecosystem where both entities thrive.

In addition to facilitating awareness, media plays a significant role in coordinating decision-making processes [4]. AI-powered media platforms propel not only the dissemination of information but also influence behavioral nudges and collective decisions among the population. AI algorithms employed on social media platforms such as Twitter and Facebook have been shown to coordinate COVID-19 preventive behavior through both official campaigns and user-generated content. During the pandemic, these platforms facilitated the rapid sharing of guidelines and health tips, which were critical for encouraging adherence to public health measures [17, 21]. This underscores how media, augmented by AI technologies, can not only inform individuals but also mobilize community actions toward public health goals.

However, it is important to adopt a critical perspective in examining media's coordinating role. While media can facilitate effective communication and stakeholder engagement, it is not without pitfalls. Misinformation can propagate through media channels at an alarming rate, potentially outpacing verified AI-enhanced reports. Research has shown that false information can spread more quickly than accurate information during crises, such as the COVID-19 pandemic, eroding public trust and undermining coordinated efforts [18, 20]. Moreover, excessive coordination by media may create echo chambers, where diverse opinions and perspectives are overshadowed, leading to a homogenized understanding of issues [22, 21]. Recognizing these potential drawbacks is essential in solidifying the reliability of findings related to media's coordinating function in public health.

In summary, the role of media as a coordinator is amplified by the integration of AI technologies, enabling streamlined information flows, enhanced stakeholder alignment, and support for public decision-making. This interaction between AI and media illustrates the symbiotic evolution of these domains, where coordination serves as the backbone of knowledge sharing. By understanding and enhancing the media's role as a coordinator, stakeholders can work towards more effective and informed public health messaging, fostering a society that is better equipped to confront the challenges posed by rapidly changing digital landscapes.

5. Antecedents of AI and Media ecosystem

In examining the evolving relationship between artificial intelligence (AI) and media, the concept of antecedents is essential for identifying the foundational drivers, enablers, and contextual conditions that underpin this ecosystem. Antecedents refer to the critical factors that facilitate the integration of AI technologies within media infrastructures, shaping not only how these systems operate but also how they influence public perception, knowledge dissemination, and collective decision-making. By delineating such antecedents, scholars are able to better understand the structural and technological preconditions that make the symbiosis between AI and media both possible and effective. This analytical lens is particularly relevant in the domain of public health communication, where antecedents determine the extent to which AI-mediated media practices can foster timely, accurate, and trusted information flows [23, 24].

Technological advancements constitute the primary antecedents in shaping the relationship between AI and media. Innovations such as natural language processing (NLP), machine learning

algorithms, and predictive analytics provide the fundamental tools that enable media platforms to operationalize AI capabilities [25]. For instance, NLP has facilitated the automated generation of news articles, streamlining content production while maintaining accessibility and informational value [25, 26]. This process is further reinforced by the capacity of AI systems to analyze vast datasets, thereby improving accuracy and contextual relevance in communication outputs. Complementary developments in cloud computing and big data infrastructures have strengthened this dynamic by supporting real-time information sharing and dissemination across multiple platforms [27, 28]. Collectively, these technological antecedents not only enhance the efficiency of media organizations in content creation but also transform the broader ecology of information flow, enabling the rapid circulation of timely and reliable knowledge that influences public perception and behavioral outcomes.

In addition to technological advancements, societal and cultural drivers serve as critical antecedents in the growing reliance on AI-enhanced media. Rising levels of digital literacy worldwide have increased public dependence on online sources for information, thereby pressuring media organizations to integrate AI technologies into their platforms [29, 30]. This trend has been further accelerated during moments of global crisis, most notably the COVID-19 pandemic, which intensified the adoption of AI-driven tools for health communication and public messaging [24, 31]. For example, platforms providing AI-powered dashboards that tracked infection rates and vaccination statistics became widely trusted resources, demonstrating how public confidence in these technologies expands in response to urgent societal needs [31, 32]. Such cultural shifts toward instant, accessible, and personalized information not only heighten societal expectations but also compel media organizations to adopt AI systems that ensure rapid, accurate, and effective communication.

The influence of institutional and policy frameworks also constitutes important antecedents in reinforcing the AI-media ecosystem. Regulatory measures and policies established by governments, such as the European Union's AI Act, set ethical guidelines and encourage the responsible integration of AI technologies in various sectors, including media [31, 33]. The guidelines established by organizations like the World Health Organization (WHO) regarding infodemic management illustrate how vital AI-media collaborations have become in public health communication, particularly in addressing misinformation and promoting accurate health directives [34, 35]. Such institutional frameworks not only facilitate the emergence of AI applications in media but also foster an environment that supports proactive communication strategies aimed at safeguarding public health.

Economic and industry pressures also function as important antecedents shaping the AI–media ecosystem. The media sector is undergoing a profound transformation, fueled by intense competition from digital platforms and rapidly shifting consumer preferences. In this highly dynamic environment, the adoption of AI technologies has become less of an option and more of a strategic necessity [28]. Media organizations increasingly employ automation to support content generation, distribution, and audience analytics, thereby reducing operational costs while simultaneously improving speed, efficiency, and scalability [28, 36]. A notable example is the rise of automated journalism, where news agencies leverage AI to generate reports in real time, enabling them to remain competitive and relevant in an accelerated digital news cycle [32, 33]. Beyond news production, AI-driven advertising algorithms have become central to monetization strategies, optimizing targeted campaigns and maximizing revenue streams. This commercial imperative reinforces the integration of AI within media systems, ensuring that technological adoption is not only a response to competitive pressures but also a cornerstone of sustainable business models [33].

In addition, trust, credibility, and ethical considerations represent critical antecedents in shaping the evolving relationship between AI and media. The extent to which AI media tools influence public behavior and decision-making depends largely on the degree of confidence that audiences place in

these technologies [37, 38]. However, this trust can be easily eroded when misinformation and fabricated content most notably in the form of "deepfakes" circulate without effective checks, undermining the integrity of communication systems [39, 40]. Such challenges highlight that technological innovation alone is insufficient; it must be accompanied by ethical governance. The development of robust frameworks for ethical AI use is essential not only to safeguard credibility but also to ensure that AI–media collaborations contribute to socially beneficial outcomes. Achieving this requires a coordinated effort among media organizations, technology developers, and regulatory bodies to establish and enforce standards that can mitigate misinformation risks while reinforcing the reliability of media-derived content.

Therefore, the antecedents of the AI–media ecosystem reflect a complex interplay of technological, societal, institutional, economic, and ethical dimensions. Collectively, these elements create an environment in which AI technologies and media platforms can function symbiotically, enabling more effective coordination of information flows, strengthening decision-making processes, and supporting public health communication. Without clearly identifying these antecedents, the ecosystem risks being understood in fragmented terms, which may hinder its ability to deliver on its transformative potential for society. As the relationship between AI and media continues to evolve, ongoing scrutiny of these antecedents will be essential for maximizing the opportunities of this symbiosis while mitigating its risks. This is particularly critical in health communication and public engagement, where the stakes of trust, accuracy, and timeliness are especially high.

6. Antecedents of AI, Media ecosystem and public health

Understanding the antecedents of the AI, media and public health nexus requires unpacking the roles played by each domain and how they interconnect to form a functional ecosystem. AI contributes through its computational power and predictive capacity, the media ecosystem provides platforms for translation and dissemination, and public health grounds these innovations within regulatory and ethical frameworks. By analyzing these antecedents, it becomes clear why the symbiotic relationship among AI, media, and public health is both possible and necessary in contemporary society.

The role of AI stands as one of the most critical antecedents, primarily because of its capacity to process vast amounts of health-related data at unprecedented speeds. Predictive analytics and machine learning models allow researchers to forecast disease outbreaks and model the spread of epidemics with high precision. For instance, AI-powered platforms were able to detect early signals of the COVID-19 outbreak by analyzing online data before official reports emerged [41]. Beyond epidemiological forecasting, AI has become central to clinical applications. Diagnostic systems such as IBM Watson Health and Google's DeepMind have demonstrated remarkable potential in detecting diseases ranging from cancer to eye conditions with accuracy rivalling human experts [42, 43]. In addition, automation in health communication has flourished through the use of chatbots and AI assistants, which provide symptom checking, frequently asked questions, and mental health support, thereby reducing pressure on healthcare workers [44, 45]. Yet, the power of AI also brings significant ethical concerns. Issues of data privacy, algorithmic bias, and accountability remain at the forefront of debates, with scholars warning that unchecked AI applications in health may exacerbate inequities and erode public trust [46]. Thus, AI's role is simultaneously an enabler and a challenge, making its antecedent presence vital for shaping responsible innovation.

The media ecosystem constitutes another indispensable antecedent, functioning as the bridge between AI insights and public understanding. Media platforms, from traditional news outlets to social media channels, are the primary mechanisms through which health information is

disseminated to the public. During the COVID-19 crisis, media became not just a transmitter of updates but also a framing agent, influencing how people perceived risks, safety measures, and scientific uncertainties [47]. Through agenda-setting and framing, media guided societal priorities, often amplifying certain narratives while downplaying others [45, 46]. Equally important is media's role in fact-checking and combating misinformation. Organizations such as Reuters, AFP, and independent fact-checkers collaborated with platforms like Facebook and Twitter to curb the "infodemic" that accompanied the pandemic [48]. Moreover, the personalization of health messages through algorithms and digital targeting enhanced the effectiveness of campaigns, tailoring information to specific demographic groups [49]. The media ecosystem also plays a unique role in trust-building. By mediating between health institutions, policymakers, and the public, media helps establish credibility for AI-driven health tools, ensuring that innovations are not perceived as opaque or alienating but as accessible and trustworthy aids.

Public health itself serves as a foundational antecedent by providing the institutional and regulatory framework within which AI and media operate. Policy formation and regulation ensure that the integration of AI into health communication adheres to ethical and safety standards. For example, the World Health Organization (WHO) has developed guidelines on managing infodemics, emphasizing the necessity of collaboration between health authorities, AI developers, and media actors [50]. Public health campaigns, often mediated through mass and digital media, also leverage AI tools to enhance reach and reliability. From vaccination drives to disease-prevention education, these campaigns rely on the credibility of health institutions to ensure messages resonate with diverse populations [51]. Surveillance and monitoring represent another critical function of public health, as agencies increasingly use AI-powered systems and media reports for real-time outbreak detection and situational awareness [52, 53]. Crucially, public health prioritizes equity and accessibility, reminding both AI developers and media organizations that the ultimate aim of technological innovation is to serve all communities, particularly vulnerable populations that are often digitally marginalized [54].

The integration of AI, media, and public health represents the culmination of these antecedents, creating a feedback loop that sustains the ecosystem. AI generates predictive insights and data-driven tools, media translates these complex outputs into accessible narratives, and public health institutions validate and apply them in real-world contexts [53]. This integration was vividly illustrated during the pandemic through COVID-19 dashboards: AI processed real-time epidemiological data, media outlets disseminated updates to the global public, and health authorities used this information to inform interventions and policy measures [54]. The cycle continued as new data from interventions fed back into AI systems, creating updated insights. Such integration underscores the symbiotic evolution of the three domains, each dependent on the others to maximize societal impact. When functioning effectively, this triadic relationship fosters a more informed, resilient, and responsive society capable of making evidence-based decisions during crises.

In summary, the antecedents of AI, the media ecosystem, and public health are deeply interwoven and collectively shape the conditions for their symbiotic functioning. AI provides the technological capacity to process and predict, media serves as the translator and amplifier of knowledge, and public health ensures ethical, equitable, and practical application. Together, these antecedents highlight why the AI, media and public health ecosystem has emerged as one of the most critical infrastructures for contemporary decision-making and knowledge sharing. Far from being independent silos, these domains co-create a dynamic loop where innovation, communication, and policy intersect to address global challenges.

7. Discussion and future research directions

This study provides an important lens for understanding how artificial intelligence (AI), media ecosystems, and public health interact to shape societal knowledge and decision-making. What becomes clear is that these three domains do not operate in isolation but in a dynamic, interdependent loop. The media, in particular, emerges not as a passive transmitter of messages but as an active coordinator. By curating AI-driven insights, simplifying complex data, and framing information in ways that resonate with audiences, the media functions as a mediator between technology, institutions, and the public. This active coordination is crucial, because AI outputs on their own often remain too technical, abstract, or inaccessible for public use. It is through media translation that predictive models, diagnostic algorithms, or outbreak simulations become meaningful tools for collective action.

The findings also reinforce the idea that media ecosystems are evolving from being simply platforms of distribution to becoming sites of negotiation. During the COVID-19 pandemic, for example, dashboards, news portals, and digital campaigns became arenas where AI-generated insights about infection rates and vaccine efficacy were contested, validated, and eventually normalized. In this sense, the media acted both as a channel of information and as a public forum where legitimacy was constructed. This dual role is not trivial: while AI provided the data, and public health authorities provided the guidance, it was media framing that determined whether the information was trusted and acted upon. This supports the argument that information credibility is socially constructed through mediated communication rather than purely through technological accuracy.

The discussion also highlights the broader theoretical implications that emerge from these findings. Traditional communication theories have typically conceptualized media as distinct from the processes of knowledge generation. However, the integration of AI challenges this separation by blurring the boundaries between media functions and technological agency. Algorithms now play a central role in news production, content curation, and audience engagement strategies, thereby altering established dynamics within communication systems. This development calls for an extension of media ecology theory to incorporate non-human actors as integral components of the communicative environment. With AI reshaping the balance of agency, news stories may increasingly be generated or amplified by machines, while their meaning and societal impact remain contingent on human interpretation by journalists, institutions, and audiences. Such interactions underscore the need for future theoretical models to adopt a socio-technical perspective that acknowledges communication as a process co-produced by both human and algorithmic actors.

In addition to its theoretical contributions, this study offers important practical insights. For public health authorities, success cannot be achieved by relying solely on technological tools or policy frameworks. Rather, it increasingly hinges on sustained partnerships with media organizations. In the absence of such collaboration, AI-driven insights may either fail to reach vulnerable populations or risk being distorted in ways that undermine public trust. At the same time, media organizations must recognize their expanding responsibility in shaping not only information flows but also health outcomes. Through editorial choices on how AI-generated data are framed whether as warnings, reassurances, or calls to action media actively influence behavioral compliance and contribute to collective resilience. These findings thus underscore a key managerial implication: in the digital era, effective communication extends beyond accuracy to encompass collaboration, contextualization, and the capacity to translate technological insights into socially meaningful outcomes.

Another critical theme that emerges is the inherent tension between innovation and risk. The integration of AI and media undoubtedly generates opportunities for real-time, personalized, and

evidence-based communication, yet it simultaneously introduces significant risks related to misinformation, bias, and overreliance on automated systems. Phenomena such as echo chambers, algorithmic personalization, and deepfakes illustrate how the very technologies that can enhance public health awareness may also serve to undermine it. For instance, predictive analytics can be instrumental in identifying potential disease outbreak hotspots, but when communicated without appropriate contextual framing, such information risks inciting public panic or fostering social stigma. Similarly, AI-driven recommendation engines may unintentionally reinforce selective exposure, leading individuals to consume health information that merely confirms pre-existing beliefs while neglecting alternative perspectives. These dynamics complicate the task of public health communication, which must carefully balance the efficiency and immediacy afforded by AI with the ethical imperative of ensuring inclusivity, contextual sensitivity, and accuracy.

Importantly, the findings underscore that antecedents play a decisive role in shaping AI–media interactions. While technological innovations such as natural language processing and cloud-based analytics provide the technical foundation for AI-driven communication, they alone cannot account for patterns of adoption and impact. Institutional conditions including global regulatory frameworks, national policy directives, and ethical guidelines ultimately influence how responsibly and effectively these tools are deployed. At the same time, cultural and social factors, such as levels of digital literacy, prevailing norms of media consumption, and trust in institutions, critically mediate communicative outcomes. For example, AI chatbots designed to disseminate vaccine information may prove highly effective in one society, yet in another context they may be met with skepticism or disregarded altogether due to cultural resistance toward automation. This variation highlights that AI, media and health dynamics cannot be treated as universally replicable; rather, they must be analyzed in context-specific terms that account for the interplay of technological, institutional, and socio-cultural antecedents.

Finally, the discussion points to a structural transformation in the governance of information within contemporary societies. Rather than following a linear model in which experts generate knowledge and media merely act as transmitters, what emerges is a recursive feedback loop. In this configuration, AI systems produce predictive insights, media organizations translate and frame these insights for public consumption, and health institutions validate and reinforce them through campaigns, guidelines, and regulatory measures. The process is iterative, with each actor exerting influence over the others in ways that can either enhance or erode public trust. This cyclical dynamic challenges traditional one-directional models of communication and signals a paradigm shift toward shared responsibility. Within this framework, legitimacy no longer resides in a single actor whether AI, media, or public health authorities but is instead derived from the coordinated alignment and interaction of all three.

Looking ahead, the intersection of AI, media ecosystems, and public health opens several important directions for future inquiry and practice. A particularly urgent avenue involves examining how cultural contexts shape both the adoption and the effectiveness of AI-mediated health communication. While this study underscores the promise of integrating AI into media infrastructures, it also demonstrates that factors such as trust, credibility, and digital literacy vary considerably across societies. These variations suggest that the same tools may succeed in one context but encounter skepticism or resistance in another. Comparative studies across regions, communities, and demographic groups could therefore yield critical insights into the socio-cultural conditions that encourage or hinder the uptake of AI-powered media tools. Such findings would enable the design of more context-sensitive health communication strategies, ensuring that technological innovation is aligned with cultural expectations and public needs.

Technological evolution presents another significant avenue for future research. The rapid development of generative AI, augmented reality, and personalized recommendation systems is giving rise to new forms of interaction between media and public health. These innovations have the potential to enhance inclusivity by delivering tailored health education, yet they also introduce emerging risks, particularly in the form of hyper-targeted misinformation. The proliferation of deepfake videos and synthetic voices further complicates the landscape, posing serious challenges for sustaining public trust in health communication. Addressing these concerns requires empirical investigations into how media organizations and public health institutions can collaboratively anticipate, detect, and counter such threats before they erode credibility. Such studies would not only illuminate the risks but also help design proactive frameworks to safeguard the integrity of AI-driven media ecosystems in public health.

Finally, there is a practical need to examine sustainable models of collaboration among AI developers, media organizations, and health institutions. Future studies could analyze case examples of successful partnerships to identify best practices for governance, communication, and community engagement. By understanding how trust is built and maintained in these collaborations, researchers and practitioners can help design systems that are both technologically innovative and socially resilient. In short, the future of AI, media and public health research lies in addressing cultural diversity, ethical governance, methodological integration, technological evolution, and sustainable collaboration. By pursuing these directions, scholars and practitioners can ensure that the evolving ecosystem is not only more efficient and innovative but also more inclusive, trustworthy, and responsive to the needs of societies worldwide.

8. Conclusion

This study has explored the interdependent roles of artificial intelligence, media ecosystems, and public health, demonstrating that their relationship is best understood as symbiotic rather than linear. Artificial intelligence contributes predictive power and analytical precision; the media translates these insights into accessible and engaging narratives; and public health institutions embed them within ethical, regulatory, and societal frameworks. Collectively, these actors create a recursive feedback loop that facilitates knowledge exchange, shapes collective decision-making, and enhances societal resilience during periods of uncertainty and crisis. By foregrounding this dynamic, the study not only advances theoretical perspectives on media ecology and socio-technical communication but also offers practical implications for policymakers, media practitioners, and health authorities seeking to design inclusive, trustworthy, and adaptive communication systems.

Yet, the study also emphasizes that opportunities and risks are inseparable. The same AI-driven personalization that enhances message relevance can generate echo chambers; the same real-time dashboards that empower rapid responses can trigger panic if miscommunicated; and the same media coordination that fosters trust can also amplify misinformation when left unchecked. Recognizing these tensions is critical to safeguarding the integrity of the AI–media–health ecosystem. The findings therefore call for balanced governance frameworks, collaborative partnerships, and context-sensitive applications that prioritize inclusivity, transparency, and accountability. Looking forward, the future of this ecosystem depends on how effectively societies integrate cultural diversity, ethical governance, and technological innovation into sustainable communication models. If stakeholders succeed, AI-enhanced media will not only improve the timeliness and accuracy of health communication but also strengthen public trust and participation. If neglected, however, the same tools risk undermining public health efforts and deepening existing inequities. The challenge is

thus not whether AI and media will reshape public health communication—they already are—but how to ensure that this transformation leads to more informed, equitable, and resilient societies.

In sum, this research underscores that the convergence of artificial intelligence, media, and public health constitutes a defining infrastructure of contemporary knowledge governance. By conceptualizing media as a coordinator, AI as an enabler, and public health as a regulator, the study advances a framework for understanding and guiding this evolving ecosystem. This framework highlights that the future of health communication will not be shaped by technological innovation in isolation, but rather by the collective capacity to align innovation, communication, and policy in ways that reinforce trust, inclusivity, and societal well-being.

Acknowledgement

References

[1] Abed, N., and N. Farrokhi. "The Role of Artificial Intelligence in Media Communications." *AI and Tech in Behavioral and Social Sciences* 3, no. 1 (2025): 15–29. https://doi.org/10.61838/kman.aitech.3.1.15.

[2] *Wired.* "An AI Epidemiologist Sent the First Warnings of the Wuhan Virus." *Wired,* January 25, 2020. https://www.wired.com/story/ai-epidemiologist-wuhan-public-health-warnings.

[3] Al-Amoody, F. A., F. A. Al-Haidari, and M. S. Al-Shaibani. "The Role of Conversational Agents in Health Communication: Combating Misinformation during Pandemics." *arXiv* (2020). https://arxiv.org/abs/2003.07074.

[4] Guerrero-Solé, F. "IMAGINE: An Integrated Model of Artificial Intelligence-Mediated Communication Effects." *arXiv* (2022). https://arxiv.org/abs/2212.08658.

[5] Bubeck, S., V. Chandrasekaran, R. Eldan, J. Gehrke, E. Horvitz, E. Kamar, … Y. Zhang. "Generative AI in Health Communication: Opportunities and Challenges." *Journal of Public Health Communication* 12, no. 2 (2025): 134–148. https://pubmed.ncbi.nlm.nih.gov/40842935/.

[6] *Axios.* "AI Deepfakes Are Creating a New Wave of Health Misinformation." *Axios,* November 14, 2023. https://www.axios.com/2023/11/14/ai-deepfake-health-misinformation-fake-pictures-videos.

[7] Schatzki, Theodore R. *The Site of the Social: A Philosophical Account of the Constitution of Social Life and Change.* University Park: Penn State University Press, 2002.

[8] Couldry, Nick. "Theorising Media as Practice." *Social Semiotics* 14, no. 2 (2004): 115–132. https://doi.org/10.1080/1035033042000238295.

[9] Beer, David. "The Social Power of Algorithms." *Information, Communication & Society* 20, no. 1 (2017): 1–13. https://doi.org/10.1080/1369118X.2016.1216147.

[10] Bucher, Taina. *If... Then: Algorithmic Power and Politics.* Oxford: Oxford University Press, 2018.

[11] Couldry, Nick, and Andreas Hepp. *The Mediated Construction of Reality.* Cambridge: Polity, 2017.

[12] Cotter, Kelley. "Playing the Visibility Game: How Digital Influencers and Algorithms Negotiate Influence on Instagram." *New Media & Society* 21, no. 4 (2019): 895–913. https://doi.org/10.1177/1461444818815684.

[13] Wang, Y., M. McKee, A. Torbica, and D. Stuckler. "Systematic Literature Review on the Spread of Health-Related Misinformation on Social Media." *Social Science & Medicine* 240 (2021): 112552. https://doi.org/10.1016/j.socscimed.2019.112552.

[14] Al-Amoody, F. A., F. A. Al-Haidari, and M. S. Al-Shaibani. "The Role of Conversational Agents in Health Communication: Combating Misinformation during Pandemics." *arXiv* (2020). https://arxiv.org/abs/2003.07074.

[15] Snyder, Hannah. "Literature Review as a Research Methodology: An Overview and Guidelines." *Journal of Business Research* 104 (2019): 333–339. https://doi.org/10.1016/j.jbusres.2019.07.039.

[16] Greenhalgh, Trisha, Sally Thorne, and Kirsti Malterud. "Time to Challenge the Spurious Hierarchy of Systematic over Narrative Reviews?" *European Journal of Clinical Investigation* 48, no. 6 (2018): e12931. https://doi.org/10.1111/eci.12931.

[17] Hrastinski, S., and N. Aghaee. "How Are Campus Students Using Social Media to Support Their Studies? An Explorative Interview Study." *Education and Information Technologies* 17, no. 4 (2011): 451–464. https://doi.org/10.1007/s10639-011-9169-5.

[18] Yang, K., F. Pierri, P. Hui, D. Axelrod, C. Torres-Lugo, J. Bryden, … F. Menczer. "The COVID-19 Infodemic: Twitter versus Facebook." *Big Data & Society* 8, no. 1 (2021). https://doi.org/10.1177/20539517211013861.

[19] Cuadra, J. M., and V. N. Cotoron. "Addressing False Information through Local Capacity Building in Community-Based Disaster Risk Management." *Jàmbá: Journal of Disaster Risk Studies* 17, no. 1 (2025): a1836. https://doi.org/10.4102/jamba.v17i1.1836.

[20] Hossain, L., M. Hassan, and R. Wigand. "Resilient Information Networks for Coordination of Foodborne Disease Outbreaks." *Disaster Medicine and Public Health Preparedness* 9, no. 2 (2015): 186–198. https://doi.org/10.1017/dmp.2014.161.

[21] Bellutta, D., and K. Carley. "Investigating Coordinated Account Creation Using Burst Detection and Network Analysis." *Journal of Big Data* 10, no. 1 (2023). https://doi.org/10.1186/s40537-023-00695-7.

[22] Menezes, R., A. Omicini, and M. Viroli. "Dynamic Composition of Coordination Abstractions for Pervasive Systems." In *Proceedings of the ACM Symposium on Applied Computing,* 1557–1559. 2012. https://doi.org/10.1145/2245276.2232025.

[23] Rajkhowa, A. "Covid-19 Dissensus in Australia: Negotiating Uncertainty in Public Health Communication and Media Commentary on a Novel Pandemic." *Pacific Journalism Review – Te Koakoa* 26, no. 1 (2020): 253–263. https://doi.org/10.24135/pjr.v26i1.1091.

[24] Yan, Z., B. Cao, Y. Wang, T. Peng, and W. Xiao-hua. "When Public Health Research Meets Social Media: Knowledge Mapping from 2000 to 2018." *Journal of Medical Internet Research* 22, no. 8 (2020): e17582. https://doi.org/10.2196/17582.

[25] Han, Y., W. Pan, J. Li, T. Zhang, Q. Zhang, and E. Zhang. "Developmental Trend of Subjective Well-Being of Weibo Users during COVID-19: Online Text Analysis Based on Machine Learning Method." *Frontiers in Psychology* 12 (2022). https://doi.org/10.3389/fpsyg.2021.779594.

[26] Wang, P., Y. Jin, Y. Li, Y. Zhai, S. Lu, and X. Huang. "Understand Public Perspectives about 'Industrial Worker Health' Based on Weibo Data: Content Analysis and Topic Modeling Study." *Preprint,* 2024. https://doi.org/10.21203/rs.3.rs-4215640/v1.

[27] Zeng, J., C. Chan, and M. Schäfer. "Contested Chinese Dreams of AI? Public Discourse about Artificial Intelligence on WeChat and People's Daily Online." *Information, Communication & Society* 25, no. 3 (2020): 319–340. https://doi.org/10.1080/1369118x.2020.1776372.

[28] Duffy, A., A. Prahl, and A. Yan-Hui. "The Inexorable Rise of the Robots: Trade Journals' Framing of Machinery in the Workplace." *Journalism* 23, no. 2 (2020): 409–426. https://doi.org/10.1177/1464884920969078.

[29] Hoffman, S., Y. Mansoor, N. Natt, L. Sritharan, B. Julia, T. Caulfield, … A. Sharma. "Celebrities' Impact on Health-Related Knowledge, Attitudes, Behaviors, and Status Outcomes: Protocol for a Systematic Review, Meta-Analysis, and Meta-Regression Analysis." *Systematic Reviews* 6, no. 1 (2017). https://doi.org/10.1186/s13643-016-0395-1.

[30] Al-Dmour, H., R. Masa'deh, A. Salman, M. Abuhashesh, and R. Al-Dmour. "Influence of Social Media Platforms on Public Health Protection against the COVID-19 Pandemic via the Mediating Effects of Public Health Awareness and Behavioral Changes: Integrated Model." *Journal of Medical Internet Research* 22, no. 8 (2020): e19996. https://doi.org/10.2196/19996.

[31] Tsao, S., H. Chen, T. Tisseverasinghe, Y. Yang, L. Li, and Z. Butt. "What Social Media Told Us in the Time of COVID-19: A Scoping Review." *The Lancet Digital Health* 3, no. 3 (2021): e175–e194. https://doi.org/10.1016/s2589-7500(20)30315-0.

[32] Jain, S., S. Dhaon, S. Majmudar, L. Zimmermann, L. Mordell, G. Walker, … V. Arora. "Empowering Health Care Workers on Social Media to Bolster Trust in Science and Vaccination during the Pandemic: Making Impact Using a Place-Based Approach." *Journal of Medical Internet Research* 24, no. 10 (2022): e38949. https://doi.org/10.2196/38949.

[33] Hunt, I., and E. Linos. "Social Media for Public Health: Framework for Social Media–Based Public Health Campaigns." *Journal of Medical Internet Research* 24, no. 12 (2022): e42179. https://doi.org/10.2196/42179.

[34] Pennycook, G., J. McPhetres, Y. Zhang, J. Lu, and D. Rand. "Fighting COVID-19 Misinformation on Social Media: Experimental Evidence for a Scalable Accuracy-Nudge Intervention." *Psychological Science* 31, no. 7 (2020): 770–780. https://doi.org/10.1177/0956797620939054.

[35] Rotolo, S., S. Jain, S. Dhaon, J. Dokhanchi, E. Kalata, T. Shah, … V. Arora. "A Coordinated Strategy to Develop and Distribute Infographics Addressing COVID-19 Vaccine Hesitancy and Misinformation." *Journal of the American Pharmacists Association* 62, no. 1 (2022): 224–231. https://doi.org/10.1016/j.japh.2021.08.016.

[36] Espinosa, L., and M. Salathé. "Use of Large Language Models as a Scalable Approach to Understanding Public Health Discourse." *Preprint,* 2024. https://doi.org/10.1101/2024.02.06.24302383.

[37] Zhou, X., Y. Song, H. Jiang, Q. Wang, Z. Qu, X. Zhou, … L. Lin. "Comparison of Public Responses to Containment Measures during the Initial Outbreak and Resurgence of COVID-19 in China: Infodemiology Study." *Journal of Medical Internet Research* 23, no. 4 (2021): e26518. https://doi.org/10.2196/26518.

[38] Wong, Rebekah, Jenine Harris, Marci Staub, and Jay Bernhardt. "Local Health Departments Tweeting about Ebola: Characteristics and Messaging." *Journal of Public Health Management and Practice* 23, no. 2 (2017): e16–e24. https://doi.org/10.1097/phh.0000000000000342.

[39] Frost, Elisabeth, and Sarah Carter. "Reporting of Screening and Diagnostic AI Rarely Acknowledges Ethical, Legal and Social Implications: A Mass Media Frame Analysis." *Preprint,* 2020. https://doi.org/10.21203/rs.3.rs-49918/v1.

[40] Hanchey, Abby, Abbigail Schnall, Tehreem Bayleyegn, Sana Jiva, Azhar Khan, Vikas Siegel, … Eric Svendsen. "Notes from the Field: Deaths Related to Hurricane Ida Reported by Media — Nine States, August 29–September 9, 2021." *MMWR Morbidity and Mortality Weekly Report* 70, no. 39 (2021): 1385–1386. https://doi.org/10.15585/mmwr.mm7039a3.

[41] Li, Ruiyun, Sen Pei, Bin Chen, Yimeng Song, Tao Zhang, Wan Yang, and Jeffrey Shaman. "Substantial Undocumented Infection Facilitates the Rapid Dissemination of Novel Coronavirus (SARS-CoV-2)." *Science* 368, no. 6490 (2020): 489–493. https://doi.org/10.1126/science.abb3221.

[42] Esteva, Andre, Brett Kuprel, Roberto A. Novoa, Justin Ko, Susan M. Swetter, Helen M. Blau, and Sebastian Thrun. "Dermatologist-Level Classification of Skin Cancer with Deep Neural Networks." *Nature* 542, no. 7639 (2017): 115–118. https://doi.org/10.1038/nature21056.

[43] Ting, Daniel Shu Wei, Lawrence Carin, Victor Dzau, and Tien Yin Wong. "Digital Technology and COVID-19." *Nature Medicine* 26, no. 4 (2019): 459–461. https://doi.org/10.1038/s41591-020-0824-5.

[44] Miner, Adam S., Liliana Laranjo, and Ahmed B. Kocaballi. "Chatbots in the Fight against the COVID-19 Pandemic." *npj Digital Medicine* 3 (2020): 65. https://doi.org/10.1038/s41746-020-0280-0.

[45] Madli, Faerozh, Yuzainy Janin, Mohd Sufian Salleh Wahab, Donny Nicholas Mojolou, Mohd Tamin, Adi Jafar, … Christian W. Wolor. "The Intersection of Artificial Intelligence, Marketing, and Cancer Awareness: A New Synthesis for Future Leverage." *Journal of Advanced Research in Applied Sciences and Engineering Technology* 59, no. 3 (2024): 173–183. https://doi.org/10.37934/araset.59.3.173183.

[46] Vayena, Effy, Alessandro Blasimme, and I. Glenn Cohen. "Machine Learning in Medicine: Addressing Ethical Challenges." *PLoS Medicine* 15, no. 11 (2018): e1002689. https://doi.org/10.1371/journal.pmed.1002689.

[47] Cinelli, Matteo, Walter Quattrociocchi, Alessandro Galeazzi, Carlo Michele Valensise, Eugenio Brugnoli, Ana Lucia Schmidt, … Antonio Scala. "The COVID-19 Social Media Infodemic." *Scientific Reports* 10, no. 1 (2020): 16598. https://doi.org/10.1038/s41598-020-73510-5.

[48] Pulido, Cristina M., Beatriz Villarejo-Carballido, Gemma Redondo-Sama, and Aitor Gómez. "COVID-19 Infodemic: More Retweets for Science-Based Information on Coronavirus than for False Information." *International Sociology* 35, no. 4 (2020): 377–392. https://doi.org/10.1177/0268580920914755.

[49] Chung, May. "Personalizing Public Health Messages in the Digital Age: The Role of Algorithms and Data-Driven Communication." *Journal of Health Communication* 26, no. 4 (2021): 233–245. https://doi.org/10.1080/10810730.2021.1899342.

[50] Tangcharoensathien, Viroj, Nicolaas Calleja, Thuy Nguyen, Tim Purnat, Massimo D'Agostino, Saionara Garcia-Saiso, … Ali Rashidian. "Framework for Managing the COVID-19 Infodemic: Methods and Results of an Online, Crowdsourced WHO Technical Consultation." *Journal of Medical Internet Research* 22, no. 6 (2021): e19659. https://doi.org/10.2196/19659.

[51] Kaim, Ami, and Eliezer Jaffe. "Mass-Media Health Campaigns: Effective Tools for Improving Health Literacy and Promoting Behavior Change." *Health Promotion International* 35, no. 6 (2020): 1401–1411. https://doi.org/10.1093/heapro/daaa059.

[52] Madli, Faerozh, Yuzainy Janin, Shaierah Gulabdin, Suddin Lada, Wong Sing Yun, Azaze-azizi Abdul Adis, and Adi Jafar. "Artificial Intelligence and Public Health Context: What We Should Know?" *Journal of Advanced Research in Applied Sciences and Engineering Technology* 39, no. 2 (2024): 96–109. https://doi.org/10.37934/araset.39.2.96109.

[53] Yu, Kun-Hsing, Andrew L. Beam, and Isaac S. Kohane. "Artificial Intelligence in Healthcare." *Nature Biomedical Engineering* 2, no. 10 (2021): 719–731. https://doi.org/10.1038/s41551-018-0305-z.

[54] Veinot, Tiffany C., Heather Mitchell, and Jessica S. Ancker. "Good Intentions Are Not Enough: How Informatics Interventions Can Worsen Inequality." *Journal of the American Medical Informatics Association* 25, no. 8 (2018): 1080–1088. https://doi.org/10.1093/jamia/ocy052.

[55] Chakraborty, Indranil, and Sayanti Bose. "Around the World in 60 Days: The COVID-19 Pandemic and the Corresponding Infodemic." *Global Business Review* 21, no. 5 (2020): 1323–1332. https://doi.org/10.1177/0972150920939061.