AI Ethics in Journalism (Studies): An Evolving Field Between Research and Practice

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Abstract

The integration of artificial intelligence (AI) in journalism has sparked complex ethical debates, particularly with the rise of generative AI systems. By now, AI permeates the entire news cycle, from information gathering to news dissemination, raising questions revolving around issues such as transparency, accountability, responsibility, bias, and diversity. Previous research showed that news organizations have slowly approached and adapted to ethical concerns regarding the use of AI, developing critical stances mainly due to rising AI power, growing audience skepticism, and mounting tensions within the industry between news publishers' strategies and journalists' anxieties. Consequently, ethical guidelines have started to emerge in news organizations, but their practical application remains challenging and under-studied, not only due to the opacity of AI algorithms, but also due to the difficulties of "embedding" journalistic values into AI systems. In the light of an intensifying discourse about ethical concerns in the news industry and growing efforts by governments and institutions such as the European Union to strengthen AI governance, journalism studies have started to explore the issue as well. However, research on AI ethics is still in its infancy, with significant gaps in understanding the practical enforcement of ethical guidelines within newsrooms, in particular when it comes to the design of AI systems. This essay critically discusses the way journalism (studies)

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approach ethical issues related to the use and the design of AI systems, given that the responsible use and design of AI systems in journalism is crucial given its integral role for democracy and society.

Keywords

artificial intelligence, journalism, journalism studies, AI ethics, journalism ethics

Introduction

In March 2023, Francesco Marconi, one of the world leading figures on artificial intelligence (AI) in newsrooms, declared in an interview with the Reuters Institute for the Study of Journalism that "the news industry must be actively engaged in the AI revolution. In fact, media companies have an opportunity to become a major player in the space—they possess some of the most valuable assets for AI development: text data for training models and ethical principles for creating reliable and trustworthy systems" (Adani, 2023). While there is no common perspective in the news industry on how to approach the use of copyrighted materials, journalism's reflection on professional ethics has a long but turbulent history: "Journalistic revolutions would erupt in every century, and revolutions in journalism ethics would follow each eruption. Journalism ethics would become more formal, more institutionalized, and more codified. But it would never lose its controversial edge, especially in times of rapid change" (Ward, 2021, p. 18). In particular with the rise of generative AI systems, journalism has been confronted with ruptures to its ethical configurations. AI has provoked discussions on the suitability of existing ethical norms, also questioning whether there is a need to develop new principles.

The ethical issues related to AI systems are complex and manyfold because AI has already permeated the entire news cycle (Porlezza & Ferri, 2022; Porlezza & Amigo, forthcoming), from information gathering to news production and distribution (Carlson, 2015; Cools et al., 2022; De-Lima-Santos & Ceron, 2021; Diakopoulos, 2019; Zamith, 2019). However, there are diverging views on the level of impact of AI technology on journalism: on the one hand, Simon (2024a) for instance argues that AI's impact on journalism is characterized by a retooling of the news business, focusing on efficiency and rationalization. Simon argues that this does not fundamentally alter the core motives of news organizations, such as gathering information, reaching audiences, and generating revenue. Instead, it is viewed as a continuation of the challenges of adapting to technological advancements rather than a complete transformation of journalism. Nevertheless, AI technology creates a growing dependence of news organizations on major technology companies for AI tools and infrastructure. This dependency may affect the autonomy of news organizations, potentially creating "lock-in" effects where they become tied to the tools and services of these tech companies. On the other hand, empirical research points toward a more profound change provoked by the increasing pervasiveness of AI in newsrooms since there are indicators of professional shifts (Møller et al., 2024; Schapals & Porlezza, 2020) or changing work practices (Gutierrez Lopez et al., 2023; Loosen, 2018; Schützeneder et al., 2024).

In this essay, we critically reflect on the way journalism discusses ethical issues related to the use as well as the design of AI-systems, in particular through guidelines or codes of ethics. Grounded in the review of existing research and analytical reasoning, we first discuss how news organizations have (slowly) approached ethical concerns related to AI technology, developing a critical stance over time, in particular because the "tension between the industry and profession of journalism in highlighting the hopes and pitfalls of AI" (Moran & Shaikh, 2022, p. 1756) became more apparent—together with the audience's critical perception about the use of AI in journalism (Vogler et al., 2023). As a consequence, questions regarding the responsible use and design of AI systems in news and journalism have become crucial.

Ethical challenges of AI journalism

As AI systems get more powerful, its ethical implications gain traction, too (Fast & Horvitz, 2017). Especially concerns over the impact on working conditions have engendered skepticism towards automation (Carlson, 2015). This tension reflects a longstanding cultural conflict within news work (Conboy, 2023), juxtaposing narratives of technological progress against anxieties over the further rationalization of journalism (Simon, 2024a).

However, ethical issues have not always been a central issue for news organizations in the early days of AI. On the contrary, various findings show that journalists' perspectives seem to be quite balanced, shifting between journalism's normative foundations and pragmatic views about the economic situation (Milosavljević & Vobič, 2019), reflecting thus a "positive blueprint despite recognition of some threats" (Kim & Kim, 2018). This is in stark contrast to public outcries by journalists in relation to cases in which the use of AI has caused disasters.[1] But why is the traditional skepticism towards technological innovation in journalism not emerging in many scholarly investigations into the use of AI in newsrooms? One possible answer could be that there might be an overrepresentation of tech-savvy journalists in the study samples: studies about the impact of AI on journalism tend to include digital journalists, those looking into journalism innovation, or those who are already working on AI-projects. Beckett's report (2019, p. 52) supports this finding since the "respondents were generally tech-savvy so were overall less worried about the negative impacts of AI than other parts of the news organization or other stakeholders might be."

A typology of ethical issues

As technology evolves, so do ethical concerns. There are, however, specific typologies of ethical issues that emerge time and again in scholarly research into the use of AI in journalism. Some of them do not differ from those arising in other societal domains:

"Whether deployed in healthcare or defense, the use of AI poses pressing questions concerning the transparency of AI systems, the attribution of responsibilities for their failures or unintended consequences, and fairness of outcomes (Floridi & Taddeo, 2016; Tsamados et al., 2021). When considering journalism, these challenges become even more pressing because, if left unaddressed, they also conflict with the ethical foundations of journalism and its importance for democracy and an informed public debate." (Romeo & Griglié, 2022, p. 256)

Transparency, accountability, as well as bias and diversity are often mentioned ethical challenges in the context of AI journalism (Porlezza & Amigo, forthcoming). Transparency involves disclosing how algorithms operate, the sources of data, the criteria used for information gathering, news curation and personalization, and labeling AI-generated content. As AI increasingly influences the entire news cycle, there are growing demands for greater transparency to ensure accountability, reduce bias, and avoid the formation of thematic silos resulting from AI-driven content personalization. Transparency is frequently advocated not only as a core principle of journalism but as a crucial safeguard for addressing the ethical and societal challenges posed by AI's role in shaping news media. As a consequence, institutions currently involved in regulating AI within media and journalism (e.g., the Council of Europe) emphasize the need for transparency (Porlezza, 2023) as an essential value to ensure the responsible application of AI in journalism.

Accountability in journalism refers to the obligation of news organizations and journalists to be answerable for the content they produce and the methods they use. With AI technologies, accountability becomes more complex as algorithms can act as "black boxes," making it difficult to trace decisions and hold responsible parties accountable for errors or biases in news coverage. To address these challenges, there is a need for mechanisms that ensure editorial oversight and ethical practices in AI-enabled journalistic processes.

Regarding bias and diversity, AI systems used for news recommendations and content personalization can either inadvertently perpetuate biases present in the data they are trained on or prioritize user engagement metrics over journalistic values such as diversity and pluralism. Sometimes news recommenders intentionally select content to maximize user engagement. This can lead to the creation of "filter bubbles," where users are exposed to a narrow range of perspectives, thereby limiting their ability to access diverse viewpoints. In this regard, the maintenance of a "human-in-the-loop" principle, where human judgment, creativity, and editorial oversight remain central to the journalistic process, is vital. While AI can augment journalists' capabilities by handling data-heavy tasks and providing analytical insights, it is crucial to ensure that human values and critical decision-making are not overshadowed by automated processes.

Beckett (2019; see also Leiser, 2022) identifies further areas that may present ethical issues: for instance, one of the main reasons for the adoption of AI technology—its potential to lower costs and improve efficiency by automating routine tasks and streamlining news production—might lead to

the risk that these economic benefits might come at the expense of editorial quality and personnel. In addition, AI also poses both risks regarding disinformation and "filter bubbles." AI can inadvertently amplify the spread of disinformation, especially through personalized content algorithms that may reinforce confirmation biases or polarize audiences. At the same time, AI systems have also the potential to counteract disinformation by enhancing fact-checking processes. Lastly, the influence of major technology companies over news and journalism is also a significant challenge associated with AI (Simon, 2022, 2024b). These companies not only provide the tools and infrastructure needed for AI integration in newsrooms but also control much of the research and product development in AI technologies. This can lead to a dependency on these companies, potentially limiting the autonomy of news organizations and creating ethical concerns regarding transparency, data privacy, and the concentration of power. All these challenges highlight the need for careful consideration and strategic planning in the adoption of AI in journalism to ensure it benefits the industry while safeguarding its ethical and editorial standards.

Ethical guidelines about ai in journalism

In the early 2020s, ethical concerns about AI in journalism became a more prominent topic both in the news industry and in journalism studies. The path from ethical issues being just "another challenge" to becoming a central task can be particularly well observed if one compares Charlie Beckett's *JournalismAI* reports produced in 2019 and 2023. While the 2019 report still mentioned that journalists were "overall less worried about the negative impacts of AI," the 2023 report stated that "ethical concerns are central to the debate about AI in all industries and journalism is no exception" (Beckett & Yaseen, 2023, p. 39).

The prominence of ethical reasoning in news organizations is also reflected in recent research that focuses on AI guidelines within European and US news media contexts. Studies by Becker et al. (2023) as well as Cools and Diakopoulous (2023) analyzed guidelines and their content. They range from determining acceptable and prohibited applications of AI, to underscoring the necessity of human oversight, the importance of transparency, accountability and responsibility, as well as privacy and confidentiality. Despite variations due to cultural and organizational factors, publishers across different countries tend to adopt similar strategies in response to the increasing impact of AI.

Yet, while central ethical principles concerned by technological changes are quite easy to identify, their practical application and enforcement turns out to be more difficult: Transparency for instance, often heralded as pivotal for cultivating trust and ensuring accountability, presents multifaceted challenges when translated into practical applications (Ananny, 2016; Ananny & Crawford, 2018). The different use cases of AI systems across journalistic domains—from content generation

to fact-checking, audience engagement, or automated tagging—may entail distinct requirements in terms of transparency. For instance, it often remains unclear to what extent the use of AI technology needs to be labeled if used as an aid only (e.g., in the case of translations).

Lacking AI regulations at the professional level

The difficulty of applying journalistic principles to AI technology can also be observed at the professional level, where institutions of media self-regulation such as press councils sometimes lack specific regulations concerning AI (Porlezza & Eberwein, 2021). Moreover, the opacity of AI algorithms poses limits to elucidating, comprehending, and scrutinizing decision-making processes, thereby impeding any form of accountability mechanisms (Diakopoulos & Koliska, 2017). Furthermore, the enigmatic nature of AI systems intensifies concerns regarding bias and discrimination, particularly in contexts where algorithmic decision-making intersects with social issues, such as those affecting marginalized communities (Möller et al., 2018). Journalism studies (often in conjunction with legal studies) have already produced a considerable corpus of empirical findings that look into the wider issues of news dissemination and recommendation, while other areas such as information retrieval or news production are less frequently studied.

Helberger (2019) and Vrijenhoek et al. (2021) for instance emphasize the significance of news recommenders while identifying key issues associated with their functionality. They highlight how algorithmic news recommender systems prioritize user engagement metrics over journalistic principles such as diversity and pluralism, potentially resulting in the formation of information bubbles. Moreover, recommender systems not only contribute to the limitation of news diversity and the narrowing of perspectives but also have far-reaching implications for societal cohesion and democratic discourse. Helberger et al.'s (2018) research confirms the conflict between the commercial interests driving algorithmic personalization and the democratic ideals of media diversity and freedom of expression. As news consumption increasingly relies on algorithmic systems, there is a risk of exacerbating social polarization, undermining therefore the foundational principles of pluralism and deliberative democracy (Ross Arguedas & Simon, 2023). In addition, the omnipresence of recommendation systems across digital (news) platforms often leaves users with limited alternatives, trapping them in algorithmically curated news environments, and limiting diversity in the long run (Jürgens & Stark, 2022).

Interdisciplinarity increases regulatory complexity

Research looking into ethical issues at the organizational level is often confronted with the challenge that it arises at the intersection between different research strands, spanning journalistic, ethical, legal, economic, and design dimensions (Dörr & Hollnbuchner, 2017; Lewis et al., 2019). For instance, ethical issues not only emerge when AI systems are being used, but they already materialize with their design. The question of how ethics and professional principles can

be integrated into design is crucial, but complex. The integration of values into AI systems is often represented as a process where journalistic values can simply be "embedded" in the technology. But Johnson and Verdicchio (2024) show that reality is more complicated: "If we think of AI as computational artifacts, then values and AI cannot be added together because they are ontologically distinct. If we think of AI as sociotechnical systems, then components of values and AI are in the same ontologic category—they are both social. However, even here thinking about the relationship as one of 'embedding' is a mischaracterization."

Nevertheless, the problem to apply "ethics at each stage of the Machine Learning development pipeline" (Morley et al., 2020, p. 2141) can be solved, for instance through value-driven design processes. This approach grounds the design of AI systems on principles from the beginning of the design process. Adamson et al. (2019) show that for such purposes, codes of ethics can provide a relevant touchstone for designers in all stages of design. The BBC for instance has developed a set of Machine Learning engine principles, which consist of six guiding principles as well as a self-audit checklist for machine learning teams (BBC, 2021). These principles are grounded in the BBC's public service values (such as trust, diversity, quality, value for money, and creativity) and in its editorial values in order to offer a practical framework that contributes to the goal of developing trustworthy AI systems. The principles thus reflect a case of "responsible machine learning in the public interest" (BBC, n.d.) that takes into account the media's responsibility in employing such transformative socio-technical technologies across different use-cases.

Yet, the relation between AI systems and journalistic norms remains an under-studied field in journalism studies. So far, only a handful of studies have been published that look into this particular issue. For instance, Bastian et al. (2021) investigated the field of news recommenders. Their findings show that in the field of algorithmic news recommenders, value-sensitive algorithm design is seen as crucial, in particular regarding core values such as transparency, diversity, editorial autonomy, a broad information offer, personal relevance, usability, and surprise. Komatsu et al. (2020) looked at the cross-section of algorithmic design and journalism, analyzing journalists' perceptions of how journalistic values such as truth, impartiality, and originality are supported and/or undermined by AI technologies. The study concludes that in order to incorporate values into the design of AI systems, newsrooms should open up "design spaces for tackling the black-box challenge, where algorithmic systems may undermine the journalistic values of transparency and accountability by not providing users with sufficient understanding of the inner workings of the system" (Komatsu et al., 2020, p. 10).

Embedding values into algorithmic systems?

Møller (2022, 2023) shows that news organizations need to approach the difficult issue of how to "embed" normative values in AI technology holistically. This means that organizations have to set

up additional systems of checks and balances by monitoring the system's output and by implementing manual control in order to safeguard editorial values. Monitoring AI systems, particularly if manual operations are set in place, requires therefore new processes, tasks, and responsibilities with the goal of maintaining manual editorial control over automated systems. Møller (2023) also concludes that new organizations should start early in the design process to critically reflect both on the selection and the conceptualization of the values that would then inform the development and implementation of the systems. However, holistic approaches are difficult to implement (Sirén-Heikel et al., 2023). Stray (2023) points out that the final coding of the systems—the translation of the values into the operations of the software—needs to be carried out by technical specialists, which is not something most small and local news newsroom will be able to do. Stray (2023, p. 161) thus points to the central problem of collaborations between journalists and developers:

> "If journalists and technologists want to collaborate to produce better news recommenders, they will need to co-produce more than principles or guidelines. It is not reasonable to expect journalists to become algorithmic experts and participate directly in technical design processes. Rather, these two groups could collaborate in the production of specific technical artifacts that are already used in contemporary recommender values engineering: metrics, data sets, feedback methods, and evaluation protocols."

In order for journalist-developer-collaborations to work, two requirements need to be satisfied: first, news organizations should make AI and algorithmic systems more intelligible to journalists. This implies making AI visible to journalists, "both within technology (e.g., by flagging up AI component presence in a system, designing explanation interfaces (…) and within the social environment (e.g., by surfacing its role in news production, how it mediates social relationships etc.)" (Jones et al., 2022, p. 1747). Making AI more visible in newsrooms can counteract perception issues that lead to speculations about what constitutes AI since this kind of guesswork leads also to conceptual issues where journalists refer back to their established AI-imaginaries mostly derived from pop-cultural depictions of the technology (Jones et al., 2022). Making the technology more visible also supports a better understanding of how strongly the entire news cycle is already permeated by AI technology.

Second, in addition to making AI more visible in newsrooms, news media organizations should further develop strategies for improving AI literacy. One example of such AI initiatives geared towards value-driven design are represented by so-called data- or AI-interventions (as they are practiced at the BBC; see Gutierrez Lopez et al., 2023). These interventions could take the form of workshops, where journalists and developers come together to discuss ethical systems' design. Deuze and Beckett (2022) suggest similar collaborations with the goal of fostering critical

awareness of the underlying ethical issues related to the use of AI in journalism. According to the two authors, the AI literacy gap is not being tackled quickly enough by journalism, which leaves it at risk of being "captured by technology (and the tech sector), rather than recognizing its history as interdependent with a range of technologies (including data, algorithms, and computational thinking), and being able to creatively and ethically use machines to be better at delivering upon its public promise" (Deuze & Beckett, 2022, p. 1914). This ultimately includes the willingness to participate in co-design processes, gaining thus agency both in terms of the design of specific systems, but also in the discussion of organizational AI strategies.

Conclusion

This essay critically discussed the way news organizations tackle the many ethical issues related to the use of AI-systems in the entire news cycle. The situation is complex, in particular because the idea of technological quick fixes by "embedding" editorial values into algorithms do not work. AI algorithms, if not properly designed and monitored, can propagate biases, leading to discriminatory practices in news coverage and content distribution. In addition, the increasing reliance on AI for content curation and news distribution can undermine traditional editorial oversight and lead to a further erosion of trust in journalism, also because AI systems often operate as "black boxes," making it difficult to understand their decision-making processes. In addition, recent findings also demonstrate that the audience does not particularly appreciate the use of AI in news production, with consequences for their willingness to pay for news. AI ethics has therefore a double meaning: it both targets consumer trust and corporate reputation and keeps the requirements to mitigate AI related risks—or any environmental concerns—to a minimum (Schultz et al., 2024). Overall, ethical issues have become a much more pressing issue for journalism, as recent scholarly publications confirm.

Consequently, many news organizations have developed AI guidelines about the responsible use of the technology, enhancing not only transparency and explainability, but ensuring that AI systems are developed and trained with diverse datasets. This is certainly a positive development considering that ethical issues have not always been a topic of interest for news outlets, especially in times when different institutions such as the European Union, the Council of Europe, and many national governments are tightening AI governance. This reflects a growing concern over the responsibility and regulation of ethical AI design, implementation, and usage in society (Kleis-Nielsen, 2024). Some of these regulatory frameworks (for instance the EU's AI Act) come with their specific risks for journalism as Helberger & Diakopoulos (2023) point out, but it also shows that AI ethics is an important topic that transcends the boundaries of news organizations.

By addressing risks and taking proactive steps to (self-)regulate AI use in journalism, the media industry can harness the benefits of AI while upholding ethical standards and public trust. However,

the mere existence of AI codes of ethics does not suffice. There is currently little (empirical) evidence on how such guidelines are being enforced in news work. This entails the risk of the opposite effect of what ethics codes are thought for, namely the risk of ethicswashing, using ethics itself "as a smokescreen to embellish corporate AI ethics" (Schultz et al., 2024). In addition, ethicswashing might also represent a strategy to counter the news industry's further regulation.

So, what should news media do then? A more holistic governance approach should include establishing internal and external oversight mechanisms, such as ethics boards or regulatory bodies that can help ensure that AI technologies are used responsibly. These mechanisms should include regular audits of AI systems and enforce compliance with ethical standards. It also includes elements that go beyond reflections on how to build algorithms: Media organizations should also invest in diversity within their teams and collaborate with diverse communities to better understand and address the potential biases in AI technologies and make sure that no discriminations occur. Along this line, news organizations should also foster collaboration with different institutions such as universities or NGOs to share knowledge and best practices for the responsible use of AI. Industry-wide standards and guidelines—promoted for instance by institutions of media self-regulation such as press councils can help establish a common baseline for ethical AI use in journalism. And last but not least we need to promote digital and AI literacy and public awareness about AI and its role in journalism and society to foster trust and to enable audiences to critically assess the information they receive.

And what does it mean for journalism studies? The discipline has so far approached this issue in a patchy way. While the area of news distribution and news recommendation has often been the object of empirical enquiries, other segments of the news cycle such as information retrieval or news production lack a similar number of studies. Similar differences can be observed in relation to the *use* of AI systems compared to their *design,* where the former is analyzed more often. However, this is not surprising given that the field of research is still relatively young. In addition, ethical issues are difficult to research because they are often located at the intersection of different disciplines, which makes interdisciplinary approaches challenging.

Hence, due to the scattered body of literature there are still a lot of blank spots that require empirical investigation. When it comes to future research, two areas in particular deserve more attention: first of all, there is a growing number of studies looking at ethical guidelines in news organizations. But these guidelines need to be put into practice, and it is often unclear how these guidelines unfold within newsrooms, how they impact decision-making processes and workflows, and how they impact journalists' perception about the technology. Additionally, ethical guidelines need to be enforced and thus monitored, but there is limited empirical evidence on how this is done.

Overall, the use of AI in journalism raises complex ethical issues, and many of them have yet to find a practical answer. It is crucial that news organizations and journalists take these issues

seriously and continue their endeavor to develop convincing ethical frameworks within which to integrate AI technologies while upholding journalistic values.

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Note

A classic example of such a clash is the case of reigning world chess champion Garry Kasparov suffering defeat from IBM's Deep Blue in New York in May 1997.

1. For instance, in the case of the US-based tech news site CNET, which had to issue 41 correction of their 77 AI-generated articles: https://www.theverge.com/2023/1/25/23571082/cnet-ai-written-stories-errors-corrections-red-ventures

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