

ARTIFICIAL INTELLIGENCE AND THE NEXT ERA OF BUSINESS JOURNALISM

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Abstract : Artificial intelligence (AI) has disrupted business news. This paper will explore the multiple ways AI is changing business journalism, the preponderance of potential for AI to offer up better efficiency, accuracy, and personalization for business journalists, as well as talk about potential issues or challenges that AI presents regarding ethical, as well as practical, challenges. When considering that the media industry is changing dramatically with machine data, AI-related operations, including natural language processing (NLP), machine learning (ML), and auto-generation of content, are fundamentally changing old journalistic practices. After looking at the number of ways AI is used today in business journalism, such as auto-based reporting, data automation, and predictive analytics, I will give as examples (research will include the use of local and global business news data), that is auto-reporting AI systems, allow people to extract data from structured data sources then report on that information as quick as possible, in this case financial releases and market shifts. There is still some time for personal input in the production of business news, nonetheless, the process of distributing news is faster, as well as human error is mitigated, and the audience receives accurate information. Moreover, AI based reporting data analysis allows reporters, including student reporters, to move beyond storytelling and discover patterns and insights that would otherwise go unreported. AI in journalism has also taken the shape of predictive analytics, which means reporters can predict the future

Keywords : Artificial Intelligence, Journalism, Innovation, Business News, Data Analysis, Ethical Considerations.

1.0 Introduction

Throughout history the media industry has been centered on human discretion, originality and detective skills. The higher volume and the necessity for reporting in "real time" provided the impetus to adopt new state-of-the-art technology to create efficiencies and possible improvements in quality. Business journalism is in the best position utilizing artificial intelligence because it is extremely data driven. Financial markets, corporate earnings and economic data produce immense amounts of structured data which can be processed and interpreted through artificial intelligence software. The emergence of auto-reporting systems, which can produce the story in seconds, allows reporters now to focus their time researching and analyzing and writing more complex, substitute work (Anderson, 2013; Linden, 2017). One of the most significant facets that AI is bringing to the business journalism landscape is the automated reporting of structured reporting tasks. Automated journalism, often referred to as "robot journalism" is a form of data journalism whereby algorithms convert structured data into narratives. For instance, Automated Insights and Narrative Science have platforms that automatically create earnings announcements, market summaries, and sports game summaries with little to no human input (Graefe, 2016). The platforms generate natural language articles based on static templates and natural language processing algorithms, producing live articles that are not only accurate in reporting, but also that are user-adapted and tailored. Take for example, the Associated Press, which enjoyed an easy upload of Artificial Intelligence to automate its quarterly earnings announcements, where the speed of reporting increased from three hundred announcements per quarter

to in excess of four thousand announcements in a single quarter (Clerwall, 2014). This shows the power of AI in enhancing productivity as well as scaling up the impact in the newsrooms.

Also, beyond automation, artificial intelligence is also transforming how journalists analyze and understand information. Business journalism hinges on the study of complex datasets to find patterns, connections, insights, etc. Analysis of data through artificial intelligence allows journalists to study larger datasets and find stories that would not have been picked if not for artificial intelligence. For example, machine learning algorithms can analyze previous data on stock market performance to predict potential trends or flag anomalies that require diagnostics (Diakopoulos, 2019). With this ability, the quality of reporting improves, but journalists can also show actionable insights into the audience.

Another area in which artificial intelligence is making such large-scale effects is through audience engagement. In a world that has an oversupply of information, delivering content that is based on individuals' interests is essential when trying to wonder about keeping people reading. Artificial intelligence engages with the specifics of human behavior, interest, engagement to select and recommend content that appends to individual interests. News media organisations like The New York Times, and Bloomberg, have implemented AI-based recommendation systems in improving the user experience of s. The described scenario describes ethical dilemmas about the fairness and impartiality of AI-enabled journalism. It has also raised questions about the future of human journalists due to fear of increased use of automated systems. While AI may help with all the mundane tasks, it does not have the ability to think creatively, with compassion or critical analysis which is fundamental to investigative journalism and more complicated storytelling (Carlson,2015). The risk of a journalist losing their job to advances in AI is an additional risk to employment opportunities in the media industry.

The issue of transparency is another key issue in AI journalism. The public has a right to know what they are consuming is either machine created, or human created. The absence of any standards of practice for disclosures in journalism raises questions about trust in the media. In a commitment to transparency, organizations have created directives on how to disclose if content was created or supported by artificial intelligence; the challenge is that there are no standard industry practices (Diakopoulos, 2020).

It is important to recognize that the configuration of AI tools in the news industry has implications for the media ecosystem. Old business models will be shattered with the advent of AI, while new opportunities for innovation will emerge to take their place. For example, using AI to push or deliver content will aid its distribution.

2.0 Review of Literature

The use of automated reporting, also known as algorithmic or robot journalism, has proliferated in recent years. Research by Graefe (2016) and Linden (2017) establish the ability of AI-based tools to generate news stories from structured datasets, such as financial reports and sporting scores, at a higher volume of output, with greater accuracy. The AI tools use natural language generation (NLG) technology to produce readable journalism and subsequently decrease the time and effort reporters spend on routine reporting tasks. For instance, The Associated Press (AP) has automated earnings reporting of quarterly figures, which increased productivity from 300 to more than 4,000 stories per quarter (Clerwall, 2014). While innovation can increase productivity, it also raises debates over how to employ human reporters, however, in the newsroom setting. Artificial intelligence data analysis tools are transforming reporters' capacity to find stories. Diakopoulos (2019) discusses the use of machine learning algorithms to analyze large-scale datasets in order to identify patterns, relationships, and outliers. For example, artificial intelligence is being used to traverse historical data trends in stock markets to produce forecasts for future stock markets and recognizing outliers that would require more rigorous analysis or scrutiny. Reporters can make data-driven, deep research reports that are simply not possible through human effort when using artificial intelligence. Of course, they need critical sensitivity to algorithmic bias and restricting their usage to get the best results from the machine.

Artificial intelligence is involved in audience engagement in terms of the ability to serve content in a tailored fashion, in which the user might be more interested. Thurman et al. (2019) illustrate how algorithms shift through individual user interests and actions to serve content, or suggest content, that the user would be interested in based on the content of the order placed. Some of the larger mainstream media outlets like The New York Times, and Bloomberg, have set up artificial intelligence-based suggestion systems to ideally enhance the user experience of the reader and ideally encourage engagement. AI-related chatbots and intelligent assistants can directly respond to users' inquiries to make the usage more engaging. Along with enhancing the reader's satisfaction, these systems open new revenue streams for media outlets. The use of artificial intelligence in journalism presents an important ethical dilemma. Broussard (2018) raises bias as a concern, noting that AI algorithms are programmed and will mimic the biases reflected in the training. If an AI tool is created to ingest financial news, which has been

documented to reflect a male demographic, then it will also produce a gendered content, disrupting journalism ethics. Carlson (2015) examines what AI can do for journalism, credibility, requiring transparency to disclose they are using robotic reporting. These ethical questions raise the importance of building AI systems with the values of journalism.

AI can perform mundane tasks, but lacks the creativity, empathy and critical thinking of an investigative journalist. Human reporters who are expected to define complicated events, conduct interviews, and provide context cannot be replaced, Anderson (2013) argues. Furthermore, potentially replacing journalists with AI technology is a serious threat to job security for media employees, suggesting the possible need to rethink what the meaning of activity and skill will be when working in a newsroom in the future. Transparency is also a key issue in the use of AI as a reporting tool. Diakopoulos (2020) highlights that transparency as related to the use of automated technologies is critical in assuring audiences that they can trust what they see or read. Several organizations have begun to develop guidelines for recognizing AI-based content, but there should be more uniform practices in the industry. If there is a lack of transparency, the value of AI-based journalism could be lost, resulting in lost audience trust.

The impact of deployed artificial intelligence in journalism has serious implications for the current media landscape. Napoli (2019) considers the power of AI technologies to disrupt current journalism business models through new sources of innovation or new delivery and content practices. For instance, AI-enabled means of content delivery can allow media organizations to find and reach their audiences in larger numbers and improve their bottom line. However, a growing concern relates to the centralization of power with the biggest technology companies, which has implications for competitive parity and public interest.

Algorithmic Bias Algorithmic bias is an important concern when it comes to AI-infused reporting. Broussard (2018) highlights that AI systems that are built on biased data will ultimately create biased reports or erroneous reports based on race and gender. **AI and the Evolution of the Newsroom** The application of Artificial Intelligence is changing the ways that journalists are working and changing the ways that newsrooms and other organizations operate. Linden (2017) explains that the use of Artificial Intelligence in news production includes multiple levels of support from gathering data for analysis to disseminating content to consumers. Utilization of the tools can catalyze standardized operations; however, it also requires that journalists learn a new set of skills including algorithmic thinking and the ability to navigate data. The development emphasizes the value of continuous learning and versatility in journalism.

The Social Impact of AI in Journalism The expansion of artificial intelligence in journalism is not just transforming the processes in the newsroom. As Anderson (2013) suggests, AI journalism can have considerable significance in shaping public opinion and framing social narratives. Political journalism can showcase bias by promoting certain viewpoints over others as a result of the reliance on artificial intelligence. It is important to understand the implications of artificial intelligence in journalism to ensure that new technologies are used ethically and responsibly in the media context.

3.0 Objectives

The present inquiry's primary concern is to identify the impact Artificial Intelligence (AI) is having on the evolution of business journalism, including its creative applications, benefits, challenges as well as implications for the future. The research will have the following specific goals:

1. To examine the extent of AI adoption in business journalism.
2. To identify the key tools and technologies being used, such as automated content generation, data analysis, and personalized content delivery.

4.0 Methodology

The research methodology used to examine the function of Artificial Intelligence (AI) in business journalism. This research study uses a mixed-method approach to analyze and understand the implications of AI in journalism by employing methods of data collection and analysis that are quantitative and qualitative to reflect the phenomenon. The methodology has five components: research design, data collection, sampling, data analysis, and ethical considerations. The research design is a mixed method approach, and the methods used quantitative and qualitative data to answer the research questions.

4.1 Quantitative Component: The quantitative portion of the research is comprised of the survey questionnaire completed by journalists, editors, media professionals, and consumers of business news. The quantitative portion of the research is looking at awareness, adoption, benefits, and difficulties of AI for journalism.

4.2 Qualitative Component: The qualitative portion of the research was from case studies and interviews with

key stakeholders' members including journalists, media executives, and AI developments. This component gave a contextual view of the ethical and practical implications of adopting AI.

Data is obtained through survey questionnaires and semi-structured interviews. To get quantitative data of awareness, use, and attitudes of AI in business journalism. The target respondents in the survey are journalists, editors, media professionals, and consumers of business news. Sample size = 100 respondents. Semi-Structured Interviews to obtain qualitative data of the practical and ethical implications of AI in business journalism. Interview guide using open-ended questions including Experience of AI tools in newsrooms, Ethical dilemmas and solutions, Future of journalism in the AI era. Only those journalists were chosen to study journalism in different multimedia platforms such as electronic media, print media, and others media groups. All data collected is tabulated and analyzed using computer software SPSS. The percentage method is used to see the results of the data. Data will be presented using tables and graphs.

4.3 Theoretical Framework

Embracing Artificial Intelligence (AI) within journalism, or specifically business journalism, is a paradigm shift for media studies. This conceptual framework, utilizing existing theories and concepts in media studies, technological adoption, and ethics, is designed to give an informative inquiry on how AI is altering journalism as a practice. The framework is based on the pillars of Technological Determinism, Diffusion of Innovations, Gatekeeping Theory, and Ethical Frameworks. The difference pillars collectively explain the drivers, mechanisms, and effects of adopting AI in journalism.

The future of journalism is at stake, journalists are tasked with determining through story selection and impact, how AI is mediated in journalism (Verweij and Oelke, 2020). The potential threat relies on how socially conscious journalism is operationalized to serve which media consumers, given the marginalizing history of conventional journalism (Johnson, 2017). Journalism has not embraced the ethical questions posed by AI with same fervor as the technological front.

Ethically guided journalism from an AI perspective might involve editors, producers, and content creators embracing speculative positions personally from the perspectives of impact and truth going forward (Jurgensen, 2020). It is important to be guarded against the sensationalism-algorithm-dead end features of AI that promote human tragedy viewing behaviors. (Bauman, 1989; Campbell, 1983; Cohen, 1988). For journalists, the AI ethical issue is more reflective and not prescriptive making engagement less palatable as an intellectual concern. AI developments in journalism could over time enable monthly exclusive access for payment, in time no journalism means no journalists as we gather into 'news pods'. Engaging each week of the year we have been meaningfully recording journalism that is incomparably valuable, highly visible and journalistically exclusive (Midgley, 2020). The ethical challenge gives compelling arguments to envision journalism's modern or post-modern condition being deeply problematic for ethical transparency in all aspects of journalism (Breit, 2019; Oppong, 2020) especially during the emergence of a new era of a globalizing media and value-based system of AI-powered journalism.

5.0 Finding

To understand the perceptions of journalists, editors, media professionals, and consumers of business news, we conducted a field survey of 100 respondents. The field survey was designed to look at the adoption of AI, the use of AI in news production, ethical concerns, etc. The major findings are presented below, through tables and graphics for simplicity.

5.1 Awareness and Adoption of AI in Journalism

The survey found that 47% of respondents knew about AI in journalism, while 13% knew little or nothing about its use. Of media professionals, 40% used AI applications in their newsrooms mainly for automated reporting and analyzing data.

Table 1: Awareness and Adoption of AI in Journalism

Sr. No	Awareness and Adoption of AI in Journalism	Number	Percentage
1.	Aware of AI in journalism	78	47%
2.	Unaware of AI in journalism	22	13%
3.	Media professionals using AI tools	65	40%

Total	100	100
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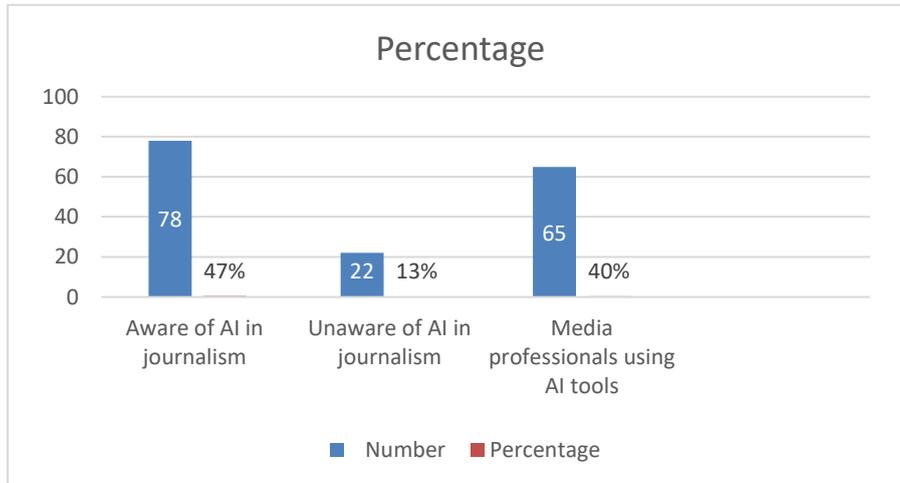


Figure 1: Awareness of AI in Journalism

5.2 Perceived Benefits of AI in Business News

Respondents cited some of the advantages of AI in business journalism. The majority of respondents cited increased efficiency (30%), accuracy (26%), and the ability to analyze data (24%). 20% of respondents also cited personalized content delivery as an important advantage.

Sr. No	Benefits of AI in Business News	Number	Percentage
1.	Increased efficiency	85	30%
2.	Improved accuracy	72	26%
3.	Enhanced data analysis	68	24%
4.	Personalized content delivery	55	20%
	Total	100	100

Table 2: Perceived Benefits of AI in Business News

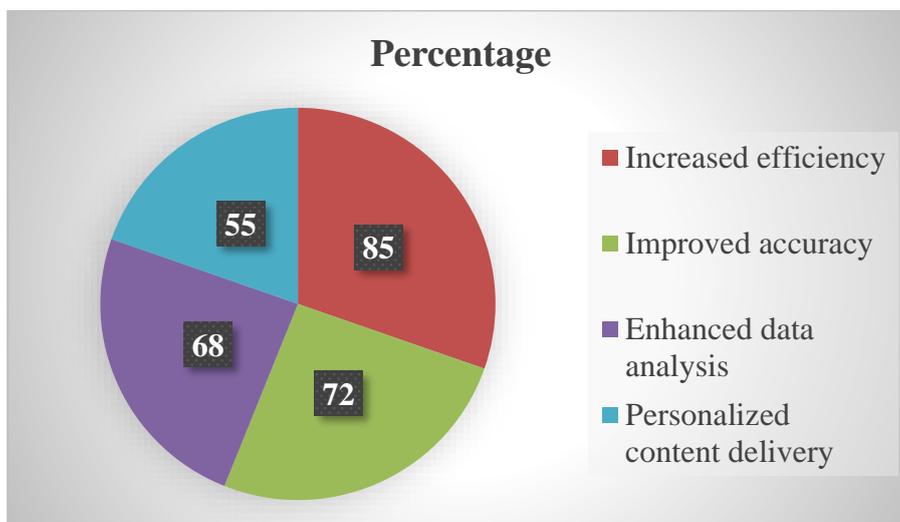


Figure 2: Perceived Benefits of AI

5.3 Concerns and Ethical Challenges

While respondents saw value in AI, they raised some ethical concerns regarding journalism and AI. The main concerns were algorithmic bias (29%), displacement of jobs (27%), as well as transparency (24%). Moreover, 20% of them worried about journalistic integrity being eroded.

Table 3: Concerns About AI in Journalism

Sr. No	Concern	Number	Percentage
1.	Algorithmic bias	70	29%
2.	Job displacement	65	27%
3.	Lack of transparency	60	24%
4.	Erosion of journalistic integrity	50	20%
	Total	100	100

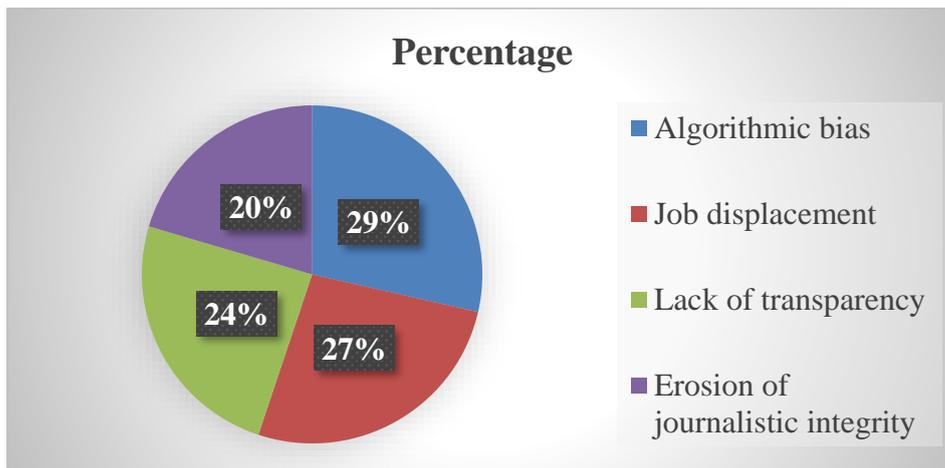


Figure 3: Concerns About AI

5.4 Impact on Newsroom Roles

The survey revealed that 60% of media professionals feel that AI will revolutionize journalists' jobs with an increased focus on investigative journalism as well as analysis of data. But 40% of them were worried about job loss through automation.

Table 4: Impact on Newsroom Roles

Sr. No	Impact on Newsroom Roles	Percentage
1.	Shift toward data analysis	60%
2.	Job losses due to automation	40%

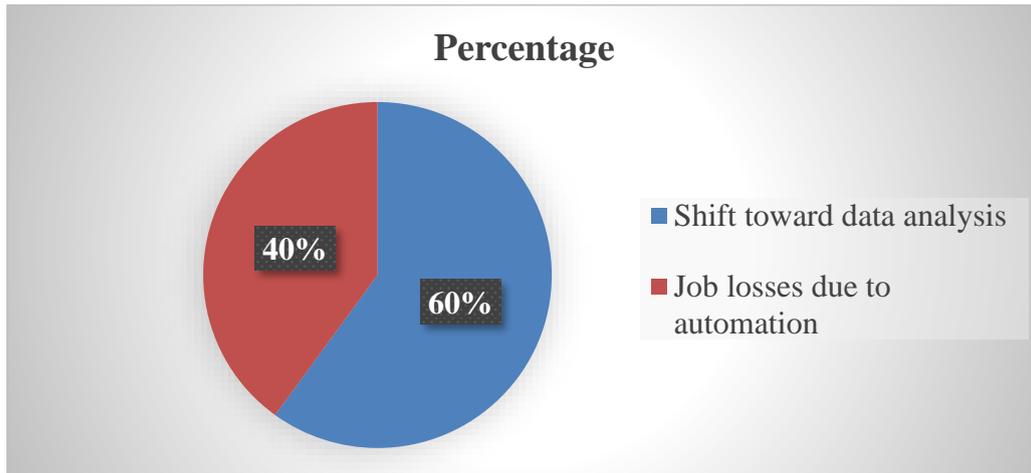


Figure 4: Impact on Newsroom Roles

5.5 Audience Perception of AI-Generated Content

Out of business news consumers, 65% said they would be okay with AI-created content if it is labeled, whereas 35% were not willing, citing apprehension about the absence of human touch as well as bias.

Table 5: Audience Perception of AI-Generated Content

Sr. No	Audience Perception of AI-Generated Content	Percentage
1.	Comfortable with AI content	65%
2.	Skeptical of AI content	35%

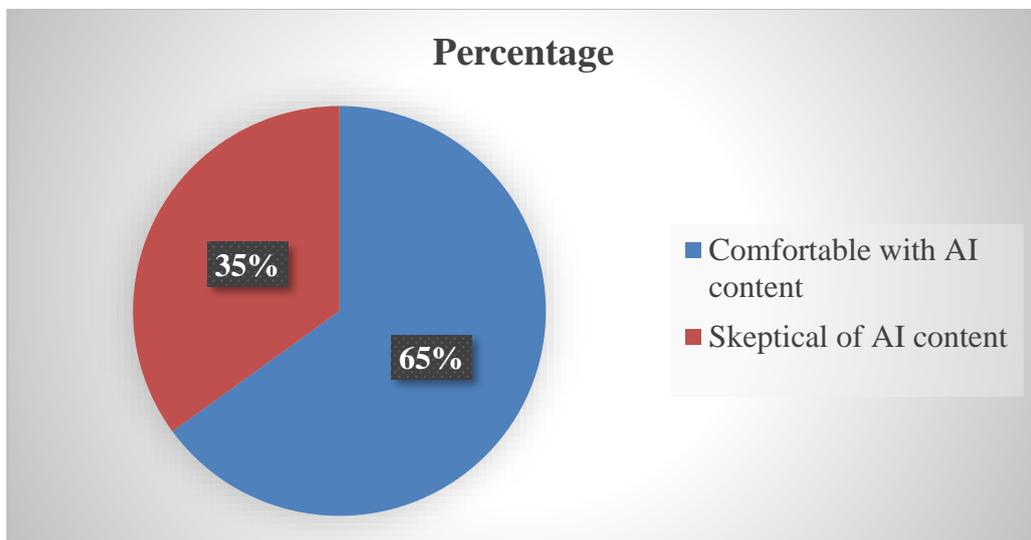


Figure 5: Audience Perception of AI-Generated Content

6.0 Conclusion

The findings of the field questionnaire indicate the transformative potential of AI for business journalism in respect to efficiency, accuracy, and interaction with audiences. The survey also identified serious concerns surrounding algorithmic bias, job loss, and transparency. In order to harness the potential of AI while tackling these issues, the media would need to apply ethical principles, invest in training journalists, and encourage collaboration between humans and technology. These recommendations chart a path forward for the responsible

adoption of AI in journalism, sophisticated innovation is grounded in the values of the profession. As artificial intelligence (AI) becomes increasingly integrated into business journalism, changes in the environment of media are profound with unprecedented opportunities, risks, and challenges. This research paper aims to identify and assess the many effects of AI as they relate to business journalism - especially what the effects are, advantages, ethical implications and outlook. Overall, the results of this paper demonstrate how AI is transforming the production, distribution, and consumption of news, thereby allowing news agencies to be efficient, accurate, and connect with their audience. However, AI is also creating serious ethical concerns, transparency issues, and the future of human journalists.

The advent of artificial intelligence (AI), including automated content generation, data discovering, and recommendation engines, is transforming journalism. AI technologies collectively provide journalists with the ability to deal with massive datasets, uncover previously unwelcome insights, and enable journalists to directly provide audiences with information products in real time, making the information increasingly relevant for users. Automation of mundane tasks provides journalists with opportunities to take on richer, more complex, and value-added work characterized by quality, depth, breadth, and complexity of business reporting. AI will disrupt and change the future of journalism, but it is also providing new opportunities for audiences in forms of personalized content and interactivity, which helps to make content and distance between media organizations and audiences much smaller.

Nonetheless, AI journalism does not come without its challenges. There are ethical challenges like algorithmic bias and the potential of negative repercussion, the need for action to create transparency in algorithmic decision making, and job loss. The alliance of scholars' joint statement that the study reaffirms the importance of clear ethical policy, calls on regulating transparency for AI-generated content, and to create an ongoing mechanism for further collaboration between journalists and technologists hints at the challenges for adoption. Conquering challenges to, for example, public esteem to achieve basic standards of professionalism will be important and desirable.

What will the future of AI in business journalism be? With the advent of AI technologies, they will play a bigger role in newsrooms and new business models. Since AI is a double-edged sword, it must be used carefully to mitigate the challenges it presents. Professional journalists will have to be retrained in working with AI, which is the job of the media organizations that must absolutely invest in it, with human judgement and creativity at the center of journalism.

In conclusion, artificial intelligence (AI) can be a tool that results in business journalism innovation capable of improving productivity, success, accuracy, and audience engagement. Still, moral values and commitment to transparency and accountability should underpin it. News businesses can harness AI's revolutionary potential, while maintaining journalism as true and socially valuable, through a responsible approach. This research contributes to on-going conversations around journalism in a world with AI by providing analysis and recommendations for traversing this complicated and rapidly changing territory.

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