



## UvA-DARE (Digital Academic Repository)

### Reinforce, readjust, reclaim

*How artificial intelligence impacts journalism's professional claim*

Møller, Lyng Asbjørn; Skovsgaard, Morten; de Vreese, Claes

#### DOI

[10.1177/14648849241269300](https://doi.org/10.1177/14648849241269300)

#### Publication date

2025

#### Document Version

Final published version

#### Published in

Journalism

#### License

Article 25fa Dutch Copyright Act (<https://www.openaccess.nl/en/policies/open-access-in-dutch-copyright-law-taverne-amendment>)

[Link to publication](#)

#### Citation for published version (APA):

Møller, L. A., Skovsgaard, M., & de Vreese, C. (2025). Reinforce, readjust, reclaim: How artificial intelligence impacts journalism's professional claim. *Journalism*, 26(7), 1373-1390. <https://doi.org/10.1177/14648849241269300>

#### General rights

It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

#### Disclaimer/Complaints regulations

If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: <https://uba.uva.nl/en/contact>, or a letter to: Library of the University of Amsterdam, Secretariat, P.O. Box 19185, 1000 GD Amsterdam, The Netherlands. You will be contacted as soon as possible.

# Reinforce, readjust, reclaim: How artificial intelligence impacts journalism's professional claim

Journalism

2025, Vol. 26(7) 1373–1390

© The Author(s) 2024

Article reuse guidelines:

[sagepub.com/journals-permissions](https://sagepub.com/journals-permissions)

DOI: 10.1177/14648849241269300

[journals.sagepub.com/home/jou](https://journals.sagepub.com/home/jou)

**Lyng Asbjørn Møller**  and **Morten Skovsgaard**

University of Southern Denmark, Denmark

**Claes de Vreese**

University of Southern Denmark, Denmark

University of Amsterdam, Netherlands

## Abstract

Major advances in artificial intelligence have fuelled a rapid increase in the automation and augmentation of journalistic work, challenging the centrality of journalists in the news production process. This article theoretically explores news automation by adopting a system of professions framework from the sociology of professions to provide a holistic perspective on the impact of artificial intelligence on journalistic work. This framework posits that different factors influence professional control over work, and problems caused by these factors have left journalism vulnerable to automation. The routine and mundane nature of a significant portion of journalistic tasks suggests that artificial intelligence may potentially replace many journalists in the future, thereby challenging the profession's claim to expertise. For journalism to uphold its professional authority in the future, it needs to brace for the impact of artificial intelligence. Building on this analysis, we explore strategies for journalism to do so. This involves reinforcing professional ideals in new algorithmic practices, readjusting knowledge and skill taught in education, and reclaiming specialised work practices in organisations. Rather than a threat, the emergence of artificial intelligence then presents an opportunity for journalism to reintroduce the distinctiveness of the profession and rejuvenate its professional promise.

---

## Corresponding author:

Lyng Asbjørn Møller, University of Southern Denmark, Campusvej 55, Odense 5230, Denmark.

Email: [lymo@sam.sdu.dk](mailto:lymo@sam.sdu.dk)

## Keywords

Artificial intelligence, automated journalism, news automation, news work, sociology of professions, system of professions

## Introduction

Journalists have long claimed exclusive expertise in gathering, verifying, prioritising, and disseminating credible information for the public. However, this claim has faced multiple significant challenges throughout the modern history of journalism with technological automation emerging as a recent addition to the list (Diakopoulos, 2019). The debate around news automation has been further propelled by the recent rise of generative artificial intelligence exemplified by text generation tools such as ChatGPT. These rapid developments indicate that the previously assumed superiority of humans in journalistic tasks such as quality writing may be overestimated, challenging the centrality of journalists in the news production process. This raises a critical inquiry: Are journalism as a profession and journalism studies as a research field underestimating the profession's risk of redundancy in the face of artificial intelligence? The marginalisation of journalism is not simply a matter of interest for journalists and academics, it also has substantial implications for the central role that the profession has played in democratic societies for more than a century. The current media environment characterised by information abundance highlights the importance of having professional journalists separate the important from the unimportant information and sustain a shared reality central to upholding the public sphere (Donsbach, 2014).

A holistic perspective on journalistic work in the age of artificial intelligence is therefore necessary to understand the threat of automation for journalism. Many studies have explored how different applications of artificial intelligence in news organisations are changing news practices in their own specific ways, such as machine learning models that identify newsworthy trends or find stories in data (Stray, 2021), text generation tools that produce news articles about sports or finance (Latar, 2018), or recommender systems that structure and prioritise news websites (Bodó, 2019). When exploring the impact of artificial intelligence one application at a time, we may fail to fully grasp the broader implications of these new technologies for journalism. In this regard, well-established sociological theories such as institutional theory (Napoli, 2014) and field theory (Wu et al., 2019) have been employed to provide explanations from a macro perspective for how larger structural changes have amplified the influence of algorithms and automation on the function of journalism. These perspectives all to a varying degree abstract from the day-to-day work of journalists by also aiming to explain societies on a macro level (Anderson, 2013). But understanding the complex dynamics around artificial intelligence and developing a response for journalism also requires perspectives that take us back down to the level of journalistic work.

The purpose of this conceptual article is to introduce such a sociological perspective from the sociology of professions to consider how artificial intelligence impacts the professional work of journalists and how journalism can respond to protect its

jurisdiction. This subfield of sociology has been employed to the analysis of other domains to examine how artificial intelligence threatens professions by removing the value of their expert knowledge (Susskind and Susskind, 2022). Specifically, we apply concepts from sociologist Andrew Abbott's system of professions framework (1988) because it puts forth concrete ideas about how professional groups must adapt to change in times of technological disruption. This framework explores how occupations evolve in an interrelated system of other occupations and institutions competing for jurisdiction over areas of work. It offers key theoretical concepts to explain how external challenges trigger professionals to reshape adjustable characteristics of their work in order to maintain control over their jurisdiction. These concepts provide a novel perspective for grasping and predicting changes within the journalistic profession amidst advancements in artificial intelligence.

In journalism studies, scholars have used the framework to analyse the professional vulnerabilities of journalism in the face of competition from other occupational groups such as public relations agents (Anderson and Lowrey, 2007) and how the profession has defended itself from interlopers in the age of online user participation (Lewis, 2012) and blogging (Lowrey and Mackay, 2008). But we argue that certain concepts from Abbott's framework also uniquely explain how influences on and aspects of journalistic work leave journalism open to a new kind of interloper, namely artificial intelligence that increasingly undertakes journalistic tasks. In this article, we therefore introduce these theoretical concepts to understand why journalism struggles to control its area of work in the face of artificial intelligence and how it can regain control. As artificial intelligence blurs the distinction between human and machine-generated content, journalism must adapt by reevaluating the subjective qualities of journalistic work to repair its automation vulnerabilities and ensure its continued relevance.

In doing so, several important questions are addressed: Why are certain areas of journalistic work vulnerable to automation? What are the implications of artificial intelligence and automation for journalism as a profession? How can news organisations, professional associations, and journalism educators respond to defend its profession from redundancy? Specifically, we first introduce the system of professions framework to analyse how journalism has previously been shaped and reshaped by external challenges. We then theoretically analyse the external and internal factors that influence work according to the system of professions framework to find that problems caused by these factors have left journalism vulnerable to automation. Subsequently, we explore the automation of routine tasks in other professions and the journalistic profession specifically, after which we discuss how this sort of automation may impact the future of journalism as a profession considering recent advancements in generative artificial intelligence. To conclude, we explore strategies for journalism to maintain control of its professional jurisdiction in the face of artificial intelligence.

### *Challenges to journalistic expertise*

The framework we apply to analyse the impact of artificial intelligence on journalism stems from the sociology of professions. Common for the sociology of professions is a

focus on the significance of specialised knowledge in delineating the boundaries between professionals and non-professionals (Freidson, 1970; Greenwood, 1957; Larson, 1977; Parsons, 1954). Specialised knowledge establishes the expertise of professionals and demonstrates their cognitive superiority over laypersons, thereby legitimising their status (Larson, 1977). Andrew Abbott's (1988) *system of professions* framework specifically offers theoretical concepts that consider how professional knowledge is grounded in the work that professionals do, its societal contexts, and its relation to the work of competing professions. These aspects are central to the impact of artificial intelligence on journalism because journalism's vulnerabilities to automation are both inherent in its work and its societal status.

A key aspect of the system of professions framework is the concept of *jurisdiction*. Jurisdiction is the link between a profession and its work; it is a profession's claim to control certain kinds of work. Professions coexist within an interrelated system, competing for jurisdiction over various work tasks which Abbott (1988: 35) define as 'human problems amenable to expert service'. Journalists have historically attempted to hold on to a jurisdictional claim as authoritative news gathering experts that possess an exclusive expertise in the task of producing and disseminating news to the public. But this notion of an exclusive news jurisdiction has always been contested in academic literature, where there has long been debate over whether journalism can even be characterised as a profession. For instance, Tunstall (1971) argues that journalism is better conceptualised as a "semi-profession" because access to journalism is unrestricted compared to traditional high-status professions such as law and medicine, and there is no licensure or mandatory formal training required to become a journalist.

The scholarly debate around the porous professional boundaries of journalism largely adopts a theoretical framework drawn from the sociology of professions and specifically Abbott's system of professions framework (Anderson and Schudson, 2019). Abbott (1988) himself argues that journalists have struggled to establish exclusive control over the news jurisdiction because mobility is common between journalism and other forms of writing and because those without journalistic degrees are not excluded from practicing journalism. Therefore, Abbott (1988) does not accept or dismiss journalism as a profession but rather calls it a "permeable occupation" due to the difficulty of patrolling its borders. But he still stresses that he does not find it particularly interesting whether journalism's inability to monopolise their task area makes it "not a profession", instead emphasising that what matters is that "interprofessional competition in fact shaped it decisively" (Abbott, 1988: 225). As we argue in this article, artificial intelligence emerges as such interprofessional competition, poised to reshape journalism as a profession in the future. Understanding how previous competition has challenged journalistic expertise is essential for grasping the implications of artificial intelligence for journalism.

But we first need to introduce some of Abbott's theoretical concepts that help illuminate how jurisdictional claims are pressured and reshaped. According to Abbott (1988), jurisdictions are dynamic and influenced by objective qualities of the work environment and subjective qualities of the professional processes. Objective qualities are external to the profession and include for instance changes in technology, the organisational foundations of the work, regulatory and legal constraints, economic pressures, or

relationships with other professions or institutions. Subjective qualities are internal to the profession and relates to its problem-solving process. Abbott conceptualises professional problem-solving as three different stages through a healthcare metaphor: diagnosis of the problem, inference to a treatment, and the treatment itself. Like doctors diagnosing patients, occupational members first gather information about their client's problem. In the inference stage, they reason to find the right solution, akin to a doctor researching treatments. Finally, at the treatment stage, they apply a solution, analogous to a doctor treating a diagnosis with medicine.

When faced with changes in its objective qualities, professions adjust the diagnosis, inference, and treatment stages of their work to maintain jurisdictional control over their task area. In his discussion of journalism, Abbott is particularly interested in how this mechanism drove a formal conception of journalism's jurisdiction in the face of competition from public relations agents. The objective qualities of the media environment changed with the emergence of public relations material in the pages of 1920s American newspapers, leading journalists to adjust the subjective qualities of their work to set themselves apart from public relations agents (Abbott, 1988). This professional encroachment resulted in journalists increasingly pursuing professionalisation with a renewed focus on professional practices exclusive to journalism such as objectivity, balance, and news analysis (Schudson, 1978). This process termed "division" by Abbott (1998: 106) arises from the aspiration of one occupational group to differentiate itself from another group.

Similarly, recent developments have challenged the jurisdictional claim of journalism and pressured journalists to adjust their practices. For instance, the emergence of new technological infrastructures in the form of the internet and social media platforms have significantly lowered the barriers to create and distribute content. These changes in the objective qualities of journalism's work environment led to the rise of internal competition from online news workers (Singer, 2003) and external competition from bloggers (Lowrey, 2006) that challenged the status of traditional journalists as the exclusive providers of news. In the face of such competition, journalism adjusted its subjective qualities of work by "co-opting" online practices (Lowrey and Mackay, 2008). Abbott (1988: 105) calls this process "amalgamation" whereby a dominant profession seeks to neutralise a threat from another occupational group by attempting to absorb them. This shift has decreased the importance of traditional investigative and news gathering skills for journalists now expected to possess a broader and more technical skill base spanning the entire news production pipeline from investigation to production and distribution (Örnebring, 2010).

By focusing on the nature of work, internal and external forces, and professional competition, Abbott's system of professions framework thus offers a more comprehensive understanding of professional development compared to the traditional emphasis in the sociology of professions on licensing, associations, and educational institutions. Lacking many of these formal boundaries akin to traditional professions, Abbott's framework is particularly relevant to understand journalism's jurisdictional claim and uniquely explains its professional vulnerabilities in the face of competition. While several scholars have therefore utilised Abbott's framework to analyse how journalism navigates external

challenges from rival occupational groups, we argue that it also explains why journalism is particularly vulnerable to competition from artificial intelligence increasingly automating journalistic tasks.

### *Journalism's vulnerability to automation*

Scholars have previously argued that much journalistic work is open to algorithmic replacement because it is “mundane, repetitious, and formulaic” (Deuze and Beckett, 2022: 5) and follows a logic that “can easily be built into algorithms” (Lindén, 2017: 71). This leaves journalism vulnerable to professional competition posed by artificial intelligence. To better understand this argument, we must look at how the objective qualities of the journalistic work environment has changed in recent years, and how these changes have reshaped the subjective qualities of journalistic problem-solving and affected the professional vulnerability of journalism.

Journalism is and has always been housed in organisations that have their own goals of succeeding in the news business. This business aspect of news is an objective quality that increasingly exerts influence over journalism as a profession (Örnebring, 2009). For much of the twentieth century, the print news business was stable and successful, translating into both gatekeeping authority and economic power (Lewis, 2012). But this success since transformed into a “newspaper crisis” (Siles and Boczkowski, 2012) with especially American print journalism being described as in “free-fall collapse” (McChesney and Nichols, 2010: 3). While the newspaper crisis is not exclusive to the United States, it has not struck in the same way across the world with for instance the press in Northern European countries being in better shape (Syvertsen et al., 2014). But many news organisations in both North America and Western Europe still struggle to respond to the decrease in print sales and advertising revenue and instead monetise their digital news operations, pressuring publishers to reduce news production costs (Nielsen, 2020). Some news organisations have recently had more success with online business models focusing on digital subscriptions, but this revenue source is still not viable across the news industry (Chyi and Ng, 2020).

Much of the decline of revenue seen in the news business relates to changes in technology. From the rise of television as a source of news and since with the emergence of the internet and digital platforms, technologies have disrupted the business models of traditional news organisations by intensifying the competition for both audience attention and advertisement sales. These changes in technology then constitute another objective quality that exerts influence on journalistic work. Lewis (2015: 322) argues that the current period of journalism is characterised by two major technological developments, namely “the overwhelming volume and variety of digital information produced by and about human (and natural) activity” and the “rapid advances in and diffusion of computing processing, machine learning, algorithms, and data science”. These technological innovations prompted an “algorithmic turn” in news production (Napoli, 2014). Concerns have been raised that this “technologisation of the workplace” is a Trojan horse used by news organisations to increase control of the news production process and make journalistic work more cost-effective (Örnebring, 2009).

The changes in the objective qualities of news work – the increasing pressure to reduce costs and the technologisation of the workplace – underscore the inherently organisational foundation of journalism that leaves it particularly susceptible to external pressures. These structural vulnerabilities of journalism are also explained through well-established social theories in journalism studies such as institutional theory (Napoli, 2014) or field theory (Wu et al., 2019). However, journalism’s vulnerabilities to automation extend beyond its relationships with other institutions and fields; they are intrinsic to the nature of the work itself. When faced with declining revenues, organisations tend to pressure their workers to improve efficiency (Abbott, 1991), a mechanism that has largely driven the routinisation of much journalistic work in pursuit of corporate profit. The unique contribution of Abbott’s framework in this context lies in its ability to explain this mechanism through the subjective qualities of work across three stages: Diagnosis, inference, and treatment.

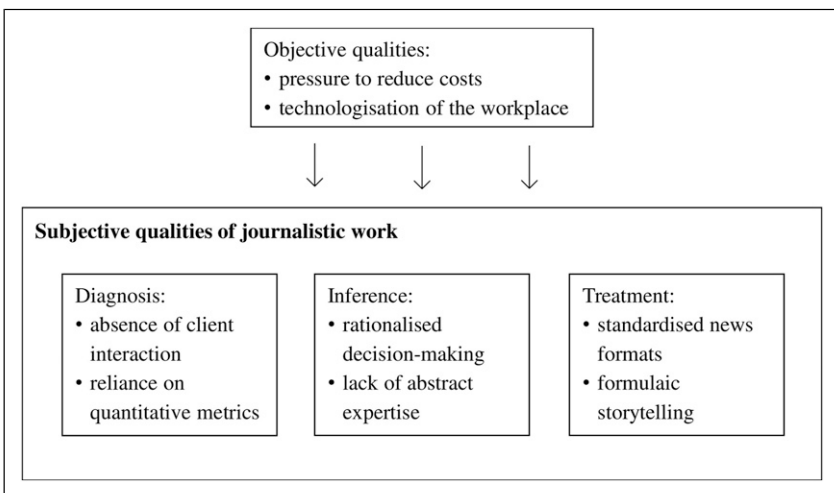
Regarding the diagnosis stage, there has long been debate about who constitutes the true clients of journalism: the public seeking news or the advertisers seeking to capture public attention (Lowrey, 2006). Viewing the public as the primary clients of journalism reveals vulnerabilities to automation within the profession. Unlike law and medicine, where professionals engage regularly with their clients, journalists often lack direct interaction with their audience. This absence of client engagement makes journalistic diagnosis more susceptible to replication by automated systems not capable of human interactions. Similarly, viewing advertisers as the clients of journalism also reveals vulnerabilities to automation. The increasing emphasis on online engagement to boost advertisement revenues has marginalised journalistic intuition during the diagnosis stage, fostering a growing reliance on quantitative metrics to determine news priorities (Petre, 2021). This trend towards quantitative measurement driven by advertisement demands has reshaped journalists’ perception of their audience to become “scientific and data-driven” (Napoli, 2011: 11). As a result, journalistic diagnosis relies less on the abstract knowledge embodied in journalists’ news judgement and increasingly on quantifiable concepts that an algorithm easily processes.

During inference, journalists apply the knowledge embodied in their news judgement to make sense of the events of the day, select stories to cover, and decide how to best cover them. According to Abbott, professional inference requires a knowledge system governed by abstractions – what he calls *abstract knowledge*. The routine connection of diagnosis to treatment without any formalisation of abstract knowledge will not be perceived by clients as legitimate professional work. While journalists do have identifiable skills, their knowledge base is more practical than the abstract expertise seen in professions such as medicine or law (Anderson and Schudson, 2019). Further, the pressure to meet organisational goals has largely led journalists to rationalise and routinise journalistic inference. For instance, journalists use concepts such as objectivity and balance to routinise story and source selection (Schudson, 1978; Tuchman, 1978), and they emphasise newsworthiness as specific characteristics of events to rationalise news judgement (Vos and Finneman, 2017). This has been exacerbated by the adoption of audience metrics and platform logics, as news organisations prioritise content formats by looking to “shareability” and trending topics (Harcup and O’Neill, 2017; Tandoc and Vos, 2016). These

developments have led journalistic inference to become increasingly “routine and not highly difficult for outsiders to learn” (Lowrey, 2006: 492).

Finally, in the treatment stage, journalists produce the final news content in the form of written articles, photographs, or videos. The level of specialisation in this stage greatly influences the vulnerability of the professional jurisdiction to external influences. The less specialised a treatment is, the harder it will be for a profession to retain control of it (Abbott, 1988). Many scholars have observed the remarkable stability of conventional news formats over time (Gans, 2003) with journalists frequently employing standardised storytelling structures to streamline news production (Schudson, 2003). Automated processes are increasingly capable of emulating this uniformity that characterises conventional news formats (Carlson, 2015). The rationalisation of the treatment stage persisted as journalism transitioned online, where it quickly adapted to the immediate nature of the internet by increasing the speed of production (Domingo, 2008). This shift brought about a rise in so-called “churnalism”, a form of routinised information packaging that lacks original ideas and instead recycles news content from other sources (Saridou et al., 2017). Further, the tools required for producing journalism have become increasingly simplified and accessible, diminishing need for specialised technical skills (Lewis, 2012). Consequently, journalistic treatment increasingly lacks the sort of specialisation that protects it from external poaching.

Figure 1 illustrates how objective qualities of the work environment have pressured journalists to adjust the subjective qualities of their work practices in ways that render the profession vulnerable to automation. The described observations across the three different stages of journalistic work indicate a growing trend towards routinisation in which tasks are standardised to rely less on specialised abstract knowledge and more on quantifiable concepts. Abbott’s (1988) system of professions framework suggests that routine tasks are



**Figure 1.** Journalism’s professional vulnerabilities to automation.

obvious targets for poaching by other professions because exclusive jurisdiction cannot be claimed over the routine connection of diagnosis to treatment. Routinised work is predictable and less challenging for outsiders to grasp, thereby leaving a profession vulnerable in jurisdictional disputes and open to technological replacement. Considering advancements in artificial intelligence, this vulnerability can raise concerns about the erosion of the profession as witnessed in fields like manufacturing with the advent of industrial robots. However, whether such erosion occurs depends on how the profession implements automation.

### *The automation of professional work*

As a result of the changes in the objective and subjective qualities of journalistic work, some of the tasks that fall under the jurisdiction of traditional journalists are no longer undertaken by human journalists alone. This shift has been particularly pronounced in recent decades with news organisations increasingly embracing news automation as a means to enhance efficiency (Diakopoulos, 2019). Prior to the recent advancements in generative artificial intelligence, scholarly literature has documented various instances of news automation across different stages of the news production pipeline. These instances can be categorised into three distinct inflection points: the newsgathering stage, the production stage, and the distribution stage. By examining these examples, we can gain valuable insights into how automation has already begun to reshape journalistic practices which can help us anticipate the broader impact of artificial intelligence on the future of journalism.

In the initial stage of newsgathering, algorithms are used to help journalists identify news stories by alerting them when trends appear, or anomalies arise (Diakopoulos, 2020). During the research phase, machine learning algorithms support journalists in uncovering previously undiscovered connections through extensive data mining and analysis of vast amounts of data that would otherwise be extremely overwhelming or even impossible for humans to handle (Stray, 2021). These cases do not fully automate the task at hand but rather augments it to save journalists' time finding and researching stories, thus greatly reducing the cost of time-consuming work such as investigative journalism.

At the production stage, natural language generation algorithms are used to fully automate news production, a practice that in journalism studies has been termed as "robot journalism" (Latar, 2018), "automated journalism" (Carlson, 2015), and "algorithmic journalism" (Dörr, 2016). These algorithms are most commonly rule-based systems that use simple data extractions to fill in human-written templates based on a set of specific rules. Therefore, the availability of structured data is a prerequisite for the implementation of this sort of rule-based automated journalism, limiting its application to data abundant fields such as sports or finance, where algorithms can efficiently process information such as match scores or corporate financial results (Wölker and Powell, 2021).

Finally, at the distribution stage, recommender algorithms increasingly replace or support front page editors in filtering, prioritising, and personalising content on news websites (Weber and Kosterich, 2018). Over recent years, there has been a notable expansion in the utilisation of recommender systems for algorithmic news personalisation

within the news industry (Bodó, 2019). These systems operate by selecting news tailored to users' implicit preferences based on audience data and presenting it on specific sections of news websites. Despite this growth, recommender systems are currently viewed as supplementary tools to assist human-led content curation by news editors, and there appears to be limited interest among news organisations in fully automating their websites with news recommender systems (Møller, 2022).

These tasks being automated in the news industry are often routine and rarely require the application of specialised knowledge to carry out. This includes both menial newsgathering tasks, routine production of news stories on company results or sports matches, and routine news selection tasks on website sections of lesser importance. This sort of routine task automation is evident throughout industrial history. Other domains such as production, logistics, and office and administrative support have for instance been heavily automated because tasks often only require rule-based logics that a machine or an algorithm easily replicates (Kalleberg and Leicht, 2021). Traditionally, high-status professions have been seen as more immune to this kind of automation because their inference is too complex to automate. But many of these professions have not been opposed to certain kinds of automation. Much of the focus of automation within high-status professions is on streamlining routine work so that professionals are released to continue carrying out the more advanced and demanding tasks of their traditional work area (Susskind and Susskind, 2022).

For instance, accountants and lawyers have shown little resistance to the automation of routine and repetitive tasks such as sample selection and document review that have now been strategically positioned as outside their exclusive jurisdiction (Faulconbridge et al., 2021). This process allows these professions to instead tightly protect other task areas in which they add value through their professional expertise. These include more unstructured tasks that require a high level of education and experience as well as complex problem-solving, reasoning, and planning for which machines and algorithms are less effective (Brynjolfsson and Mitchell, 2017). This sort of automation then does not fundamentally change the old ways of working. Rather, it complements and streamlines the work through the support of efficient machines or algorithms. As Abbott (1998: 434) points out in relation to automation within commodity expertise, it tends to “affect only the lowest levels of expertise, the most routine, the most uninteresting”. Therefore, automation is often within the comfort zone of technological disruption for most professions (Susskind and Susskind, 2022).

Similarly, previous research has shown that journalists largely dismiss news automation as serious competition because it lacks the complexity inherent in their professional expertise and primarily targets routine tasks (Van Dalen, 2012). These tasks are perceived as outside the exclusive jurisdiction of journalism which therefore remains unthreatened by their automation. Hence, the shift towards automation is often welcomed by journalists as it allows them to devote their time to the kinds of journalism that require the expertise and knowledge that only human journalists embody (Schapals and Porlezza, 2020). However, the latest advances in artificial intelligence suggest that technology may be able to replace more news production tasks than previously imagined. The recent emergence of generative artificial intelligence represents a radical departure from earlier

rule-based tools, signifying a transformative shift in automation capabilities within the news industry. Consequently, journalists can no longer afford to simply dismiss these technologies if they want to maintain control of their professional jurisdiction.

### *The future of journalism as a profession*

On 30 November 2022, OpenAI released its Generative Pre-trained Transformer (GPT) to the public through the chatbot ChatGPT, marking the introduction of generative artificial intelligence to a broader audience. Compared to the first wave of rule-based text generation tools used for automated content production in the news industry, large language models such as GPT operate on a fundamentally different principle. Instead of relying on predefined templates, these models leverage deep learning to generate human-like narrative text. This enables the emulation of human language with a level of sophistication and nuance previously unattainable, producing content that is not only coherent but also creative and contextually relevant. The emergence of generative artificial intelligence represents a fundamental shift in the nature of the threat posed by automation to journalism as a profession. These models have capabilities that extend beyond routine tasks and into areas requiring higher levels of abstraction and creativity such as story ideation and narrative construction.

As a result, a wide range of journalistic tasks are now within the realm of automation, threatening to replace a significant portion of journalists. The question is then how journalism as a profession can protect itself from this sort of professional threat. Historically, journalists have adjusted the subjective qualities of their work to maintain jurisdictional control in response to external challenges such as emphasising objectivity and balance when confronted with competition from public relations agents. A similar response may be needed for journalism to uphold its professional authority in the face of artificial intelligence. To achieve this, we argue that journalism needs to focus on three priorities fundamental to maintaining its professional boundaries, namely *reinforcing* professional ideals in new algorithmic practices, *readjusting* knowledge and skill taught in education, and *reclaiming* specialised work practices in organisations.

First, journalism needs to *reinforce* its normative and professional ideals when integrating artificial intelligence into journalistic work. These ideals like fairness and public interest are crucial for a profession such as journalism that lacks traditional professional boundaries in the form of entry barriers. Embracing such ideals becomes an important boundary marker for defining the essence of journalism and protecting the legitimacy of the profession. This normative foundation is at risk of dilution if technologies prone to unethical conduct increasingly undertake journalistic tasks. For instance, large language models tend to make factual mistakes. These models produce “artificial hallucinations” in which they generate plausible sounding but completely untrue statements, and current algorithms are often trained on outdated data sets that limit them from generating factual information about current events (Alkaissi and McFarlane, 2023). Further, the training data can be biased in different ways which creates a tendency in the models to reproduce stereotypes (Singh and Ramakrishnan, 2023).

Consequently, the integration of these technologies necessitates human oversight to maintain journalistic integrity. Therefore, news organizations must formalise guidelines that ensure ethically sound algorithmic practices, and journalists need greater algorithmic literacy to navigate the landscape of artificial intelligence effectively and responsibly. However, larger organisations may have more capacity to implement such comprehensive guiderails compared to smaller newsrooms with limited resources. Collaborations between industry and academia may therefore prove essential to provide training programs, best practice guidelines, and open-source technologies, ensuring that newsrooms of all sizes can maintain journalistic standards when integrating artificial intelligence into news production. Furthermore, when artificial intelligence is implemented to fully automate news production, clear labelling that distinguishes artificially generated content from human-authored journalism will be essential to maintain transparency and trust. However, the lack of business incentives for algorithmic disclosure can limit its adoption in news organisations (Diakopoulos and Koliska, 2017), and regulatory or self-regulatory responses may be necessary to ensure consistent transparency measures across the news industry (Helberger and Diakopoulos, 2023).

Second, there is a need to *readjust* the professional education and training of journalists to focus on abstract knowledge and skill in order to maintain jurisdictional control and mitigate the risk of algorithmic automation. While large language models may be able to undertake some non-routine tasks, they have several limitations that render them less effective for complex problem-solving. Human intelligence is deeply rooted in common sense reasoning, something that artificial intelligence have always struggled to replicate (Mitchell, 2019). Large language models do not understand or reason as humans; they are a powerful predictive technology that uses statistics and brute-force processing to statistically predict word sequences when generating text (Floridi and Chiriatti, 2020). Consequently, these models cannot undertake more abstract journalistic tasks reliant on complex news analysis. They merely generate output based on training data, they do not break any news or come up with new ideas. Therefore, journalism schools will be central to educate journalists with specialised knowledge and skill beyond the replication capabilities of artificial intelligence.

Donsbach (2014) has previously argued that professional journalism needs to step into the role of a “knowledge profession” to protect it from increasing marginalisation in public communication. This necessitates the integration of new competencies in journalism education such as analytic reasoning and knowledge-testing that enable journalists to be truth-seekers in a scientific sense. A similar readjustment to the professional education and training of journalists could help shield journalism from algorithmic automation by shifting focus from craft skills and routine practices to tasks involving abstract knowledge and specialised skills. Further, advanced training in human-to-human interviewing should remain central in journalism education given the practical circumstances that still prevents its automation. By embracing advancements in artificial intelligence as an opportunity to upskill the next generation of journalists, journalism educators can play a vital role in shaping the future professional resilience of journalism. Similarly, news organisations and professional associations also have a responsibility to

upskill the current workforce with the necessary technical skills and abstract knowledge to keep up with technological development.

Third, news organisations need to leverage the efficiency gains resulting from the automation of routine tasks to *reclaim* the traditional journalistic tasks that have been overshadowed by the digitisation of journalism. From the television to the computer and the internet, different technological developments have put pressure on journalists to accomplish more within tighter deadlines (Elliott, 2020). The digitisation of journalism has in particular put emphasis on the notion of speed and immediate reporting inherent in the 24/7 deadline structure of online publishing (Hartley, 2013). Consequently, there is less time available for journalists to engage in the more intricate and advanced tasks characteristic of traditional journalism. News automation and augmentation through artificial intelligence presents an opportunity for news organisations to relieve journalists of routine tasks and allow them to focus more on traditional but time-consuming journalistic tasks such as interviewing sources, uncovering newsworthy stories, experimenting with innovative storytelling formats, and engaging in impactful genres like reflective reporting and investigative journalism. This shift also allows for a renewed emphasis on specialisation within news organisations in which journalists cultivate deep knowledge and expertise in specific coverage areas that enable them to approach subjects with greater scrutiny. Such specialisation can serve as a strategic mechanism to bolster the profession's position in jurisdictional disputes.

However, the contemporary news media landscape is characterised by significant heterogeneity, a trait accentuated by emerging technologies such as artificial intelligence. Consequently, their integration into newsrooms will vary widely, and differences in organisational cultures and business models are going to shape how these technologies are embraced. In general, news organisations will undoubtedly look to utilise artificial intelligence to streamline journalistic work. But rather than freeing up time and resources for more traditional investigative and newsgathering work, some news organisations will leverage these efficiency gains to cut costs and reduce the work force. For instance, the CEO of the German media group Alex Springer recently said in a leaked internal memo to employees that the company's future lies in artificial intelligence which will lead to significant job cuts (Daniel, 2023). Implemented in this manner, artificial intelligence allows news organisations to produce more of the same content at lower costs, potentially diminishing the unique appeal and value of news content in an increasingly competitive attention economy. Consequently, public demands are likely to pivot towards the type of original and nuanced reporting that sets journalism apart from other content creators. For some news organisations, this will provide incentives to adjust their strategies to prioritise such reporting.

These steps offer a pathway for journalism to strengthen its jurisdictional claim in the face of artificial intelligence. Artificial intelligence can streamline journalistic work by automating routine tasks and augmenting more complex tasks, enabling a renewed emphasis on specialisation and the investigative and newsgathering skills that define journalism as a profession and protect its exclusive claim to expertise. Following Abbott's (1988: 105) framework, journalism adjusts its subjective qualities of work to reach a more "optimum level of abstraction" through the process of division, automating its routine task

areas and focusing instead on specialised knowledge, skills, and practices. Rather than a threat, the embrace of artificial intelligence can become a way for journalism to reclaim its core task area and return to its roots after decades of digitisation-induced deskilling, in turn reintroducing the distinctiveness of the profession and reinforcing its exclusive claim to the news jurisdiction.

## Conclusion

In this article, we have explored the challenges and opportunities for journalism posed by artificial intelligence by applying a new perspective from the sociology of professions. The novel contribution of Abbott's system of professions framework lies in its conceptualisation of professional vulnerabilities not only in structural circumstances but also in the actual work. Our analysis reveals vulnerabilities to automation in journalism's problem-solving process due to an absence of client interaction and growing reliance on quantitative metrics at the diagnosis stage, rationalised decision-making and lack of abstract expertise during inference, and standardised and streamlined news production lacking specialised treatment. In light of recent advancements in artificial intelligence, this routinisation of journalistic work leaves it vulnerable to automation, and some journalists will be at risk of algorithmic replacement in the future.

However, Abbott's conceptualisation of the role of abstract knowledge in upholding professional claims also explains how journalism can protect itself from the encroachment of artificial intelligence. If journalists want to retain their professional authority in a future where routine skills are likely to become less important, we argue that news organisations, professional associations, and journalism educators need to *reinforce* the professional ideals of journalism in new algorithmic practices, *readjust* its knowledge base to focus on abstract knowledge and skill, and *reclaim* the specialised investigative and newsgathering task areas of traditional journalism. Then, artificial intelligence presents itself as an opportunity for journalism to rediscover its roots by freeing up journalists' time for the sort of abstract work that characterises the profession, in turn strengthening its jurisdictional claim. This analysis shows that Abbott's framework captures modern technological disruption exceptionally well given its relative age, discerning not only how professional competition from other occupations shapes the system of professions but also how advanced technology redefines jurisdictional boundaries.

While broader social theories are still needed to fully grasp how artificial intelligence impacts the influence of forces transcending the system of professions such as regulatory bodies and digital platforms, we have shown that Abbott offers a fruitful framework to study the impact of artificial intelligence specifically on journalistic work. This theoretical analysis exposes the need for empirical research into the role of artificial intelligence in journalistic work to find out: How is artificial intelligence put to use in news organisations? Are these new technologies used to free up journalists for more creative work or as a management tool to make journalism more cost-effective? In what direction are the skill demands of journalists changing in the context of artificial intelligence, and what are the consequences for the quality of the journalistic output? Is there an audience demand for more of the creative and in-depth journalistic work that news automation can support?

The ambition of this article is to lay the groundwork for this sort of research that is increasingly important for understanding journalism as a profession in the age of artificial intelligence.

### Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

### Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

### ORCID iD

Lynge Asbjørn Møller  <https://orcid.org/0000-0002-1632-2253>

### References

- Abbott A (1988) *The System of Professions: An Essay on the Division of Expert Labour*. Chicago: University of Chicago Press.
- Abbott A (1991) The future of professions: occupations and expertise in the age of organization. *Research in the Sociology of Organizations* 8: 17–42.
- Abbott A (1998) Professionalism and the future of librarianship. *Library Trends* 46(3): 430–443.
- Alkaissi H and McFarlane SI (2023) Artificial hallucinations in ChatGPT: implications in scientific writing. *Cureus* 15(2): e35179.
- Anderson CW (2013) Towards a sociology of computational and algorithmic journalism. *New Media & Society* 15(7): 1005–1021.
- Anderson W and Lowrey W (2007) What factors influence control over work in the journalism/public relations dynamic? An application of theory from the sociology of occupations. *Mass Communication & Society* 10(4): 385–402.
- Anderson CW and Schudson M (2019) Objectivity, professionalism, and truth seeking. In: Wahl-Jorgensen K and Hanitzsch T (eds) *The Handbook of Journalism Studies*. 2nd edition. International Communication Association (ICA) handbook series. New York: Routledge, 136–150.
- Bodó B (2019) Selling news to audiences – a qualitative inquiry into the emerging logics of algorithmic news personalization in European quality news media. *Digital Journalism* 7(8): 1054–1075.
- Brynjolfsson E and Mitchell T (2017) What can machine learning do? Workforce implications. *Science* 358(6370): 1530–1534.
- Carlson M (2015) The robotic reporter. *Digital Journalism* 3(3): 416–431.
- Chyi HI and Ng YMM (2020) Still unwilling to pay: an empirical analysis of 50 U.S. Newspapers' digital subscription results. *Digital Journalism* 8(4): 526–547.
- Daniel W (2023) *The CEO of a giant media company just said A.I. is making some journalists obsolete as he plans staff cuts*. Fortune, 1 March. Available at: <https://fortune.com/2023/03/01/>

- [will-ai-robots-take-jobs-journalism-axel-springer-ceo-mathias-dopfner/](#) (accessed 27 September 2023).
- Deuze M and Beckett C (2022) Imagination, algorithms and news: developing AI literacy for journalism. *Digital Journalism* 10(10): 1913–1918.
- Diakopoulos N (2019) *Automating the News: How Algorithms Are Rewriting the Media*. Cambridge: Harvard University Press.
- Diakopoulos N (2020) Computational news discovery: towards design considerations for editorial orientation algorithms in journalism. *Digital Journalism* 8(7): 945–967.
- Diakopoulos N and Koliska M (2017) Algorithmic transparency in the news media. *Digital Journalism* 5(7): 809–828.
- Domingo D (2008) When immediacy rules: online journalism models in four Catalan online newsrooms. In: Paterson C and Domingo D (eds) *Making Online News: The Ethnography of New Media Production*. New York: Peter Lang, 113–126.
- Donsbach W (2014) Journalism as the new knowledge profession and consequences for journalism education. *Journalism* 15(6): 661–677.
- Dörr KN (2016) Mapping the field of algorithmic journalism. *Digital Journalism* 4(6): 700–722.
- Elliott D (2020) Essential shared values and 21st century journalism. In: Wilkins L and Christians CG (eds) *The Routledge Handbook of Mass Media Ethics*. 1st edition. New York: Routledge, 30–42.
- Faulconbridge J, Folke Henriksen L and Seabrooke L (2021) How professional actions connect and protect. *Journal of Professions and Organization* 8(2): 214–227.
- Floridi L and Chiriatti M (2020) GPT-3: its nature, scope, limits, and consequences. *Minds and Machines* 30(4): 681–694.
- Freidson E (1970) *Profession of Medicine: A Study of the Sociology of Applied Knowledge*. New York: Dodd, Mead & co.
- Gans HJ (2003) *Democracy and the News*. Oxford: Oxford University Press.
- Greenwood E (1957) Attributes of a profession. *Social Work* 2(3): 45–55.
- Harcup T and O’Neill D (2017) What is News? News values revisited (again). *Journalism Studies* 18(12): 1470–1488.
- Hartley JM (2013) The Online Journalist between Ideals and Audience: Towards a (more) audience-driven and source-detached journalism? *Journalism Practice* 7(5): 572–587.
- Helberger N and Diakopoulos N (2023) The European AI act and how it matters for research into AI in media and journalism. *Digital Journalism* 11(9): 1751–1760.
- Kalleberg AL and Leicht KT (2021) United States: eight key themes in sociology of work. *La Nouvelle Revue du Travail* 19(19).
- Larson MS (1977) *The Rise of Professionalism: A Sociological Analysis*. Berkeley: University of California Press.
- Latar NL (2018) *Robot Journalism: Can Human Journalism Survive?* Singapore: World Scientific.
- Lewis SC (2012) The tension between professional control and open participation: journalism and its boundaries. *Information, Communication & Society* 15(6): 836–866.
- Lewis SC (2015) Journalism in an era of big data: cases, concepts, and critiques. *Digital Journalism* 3(3): 321–330.
- Lindén C-G (2017) Algorithms for journalism: the future of news work. *The Journal of Media Innovations* 4(1): 60–76.

- Lowrey W (2006) Mapping the journalism–blogging relationship. *Journalism* 7(4): 477–500.
- Lowrey W and Mackay JB (2008) Journalism and Blogging: a test of a model of occupational competition. *Journalism Practice* 2(1): 64–81.
- McChesney RW and Nichols J (2010) *The Death and Life of American Journalism: The Media Revolution that Will Begin the World Again*. Philadelphia: Nation Books.
- Mitchell M (2019) *Artificial Intelligence: A Guide for Thinking Humans*. New York: Farrar, Straus and Giroux.
- Møller LA (2022) Recommended for you: how newspapers normalise algorithmic news recommendation to fit their gatekeeping role. *Journalism Studies* 23(7): 800–817.
- Napoli PM (2011) *Audience Evolution: New Technologies and the Transformation of Media Audiences*. New York: Columbia University Press.
- Napoli PM (2014) Automated media: an institutional theory perspective on algorithmic media production and consumption: automated media. *Communication Theory* 24(3): 340–360.
- Nielsen RK (2020) Economic contexts of journalism. In: Wahl-Jorgensen K and Hanitzsch T (eds) *The Handbook of Journalism Studies*. 2nd edition. International Communication Association (ICA) handbook series. New York: Routledge, 324–340.
- Örnebring H (2009) *The Two Professionalisms of Journalism: Journalism and the Changing Context of Work*. Oxford: Reuters Institute for the Study of Journalism.
- Örnebring H (2010) Technology and journalism-as-labour: historical perspectives. *Journalism* 11(1): 57–74.
- Parsons T (1954) *Essays in Sociological Theory*. New York: Free Press.
- Petre C (2021) *All the News That's Fit to Click: How Metrics Are Transforming the Work of Journalists*. Princeton: Princeton University Press.
- Saridou T, Spyridou L-P and Veglis A (2017) Churnalism on the Rise? assessing convergence effects on editorial practices. *Digital Journalism* 5(8): 1006–1024.
- Schapals AK and Porlezza C (2020) Assistance or resistance? Evaluating the intersection of automated journalism and journalistic role conceptions. *Media and Communication* 8(3): 16–26.
- Schudson M (1978) *Discovering the News: A Social History of American Newspapers*. New York: Basic Books.
- Schudson M (2003) *The Sociology of News*. New York: W. W. Norton.
- Siles I and Boczkowski PJ (2012) Making sense of the newspaper crisis: a critical assessment of existing research and an agenda for future work. *New Media & Society* 14(8): 1375–1394.
- Singer JB (2003) Who are these guys? The online challenge to the notion of journalistic professionalism. *Journalism* 4(2): 139–163.
- Singh S and Ramakrishnan N (2023) *Is ChatGPT biased? A review*. Preprint, 9 April. Open Science Framework, Available at: <https://osf.io/9xkbu>
- Stray J (2021) Making artificial intelligence work for investigative journalism. In: Thurman N, Lewis SC and Kunert J (eds) *Algorithms, Automation, and News: New Directions in the Study of Computation and Journalism*. London New York, NY: Routledge, Taylor & Francis Group, 97–118.
- Susskind RE and Susskind D (2022) *The Future of the Professions: How Technology Will Transform the Work of Human Experts*. 2nd edition. Oxford: Oxford University Press.
- Syvvertsen T, Enli G, Mjøs OJ, et al. (2014) *The Media Welfare State: Nordic Media in the Digital Era*. Ann Arbor: University of Michigan Press.

- Tandoc EC and Vos TP (2016) The journalist is marketing the news: social media in the gatekeeping process. *Journalism Practice* 10(8): 950–966.
- Tuchman G (1978) *Making News: A Study in the Construction of Reality*. New York: Free Press.
- Tunstall J (1971) *Journalists at Work, Specialist Correspondents: Their News Organizations, Sources and Competitor-Colleagues*. London: Constable.
- Van Dalen A (2012) The algorithms behind the headlines: how machine-written news redefines the core skills of human journalists. *Journalism Practice* 6(5–6): 648–658.
- Vos TP and Finneman T (2017) The early historical construction of journalism's gatekeeping role. *Journalism* 18(3): 265–280.
- Weber MS and Kosterich A (2018) Coding the news. *Digital Journalism* 6(3): 310–329.
- Wölker A and Powell TE (2021) Algorithms in the newsroom? News readers' perceived credibility and selection of automated journalism. *Journalism* 22(3): 86–103.
- Wu S, Tandoc EC and Salmon CT (2019) A field analysis of journalism in the automation age: understanding journalistic transformations and struggles through structure and agency. *Digital Journalism* 7(4): 428–446.

### Author biographies

**Lynge Asbjørn Møller** is a post-doctoral researcher at the Digital Democracy Centre, University of Southern Denmark. His research interests revolve around the impact of digital technologies on journalism and the role of artificial intelligence, algorithms, and data in journalism and society. He received his PhD from Aarhus University in which he investigated the development and implementation of algorithmic news recommender systems at traditional news organisations.

**Morten Skovsgaard** is Professor WSR at the Centre for Journalism, Department of Political Science and Public Management, University of Southern Denmark. Before writing his PhD dissertation at the University of Southern Denmark, Morten Skovsgaard worked as a journalist at different regional newspapers. His research focuses on the production, consumption and effects of news applying several different methodological approaches.

**Claes de Vreese** is Distinguished University Professor of AI & Society at the University of Amsterdam and the founding inaugural scientific director of the Digital Democracy Center at University of Southern Denmark. His research interests span from media, public opinion, and electoral behaviour to the role of data and AI in democratic processes.