What are The Positive and Negative Impacts of Artificial Intelligence on Journalism?

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Abstract: *Recently, the media panorama has gone through fast and unheard-of transformations, because of the tremendous improvement in Information and communication technologies (ICTs). In the context of the so-called Fourth Industrial Revolution, every aspect of social life has been rapidly technologically changed, and journalism is no exception.*

Key words: *AI, journalism.*

1. Introduction

Recently, the media panorama has gone through fast and unheard-of transformations, because of the tremendous improvement in Information and communication technologies (ICTs). In the context of the so-called Fourth Industrial Revolution, every aspect of social life has been rapidly technologically changed, and journalism is no exception.

Artificial intelligence (AI), algorithms, robots, and other technologies are today a crucial part of the new media ecosystem. AI introduces a brand new concept of media, that reflects a stimulating improvement in journalism, which is known today as; "Robot Journalism" or "Algorithm journalism", or "Automated Journalism" as well. Besides, the use of AI technologies has become an indispensable part of the field of media that has led to radical transformations in the field of journalism (Galily, 2018). Indeed, the emergence of artificial intelligence and new technologies has always been a question for journalists to ask about the potential impacts on the media in terms of the concept, content, and production methods of production and dissemination. Digital journalism has recently seen a major shift in the creation and production of content through automated software, which will affect the way journalism develops in the future. In this literature review, I will look at both the positive and negative impact of Artificial Intelligence on journalism.

2. What is artificial intelligence?

There are many academic controversies about a proper definition of AI that are applied throughout, but there's still no unified definition for the term. For instance, Coppin (2004), shows that artificial intelligence involves the use of methods based on the intelligent behavior of humans and other animals to solve complex problems. Human-made AI is predicated on the utilization of computer models, connected techniques, and technologies to help humans in shortening time and also increase productivity and efficiency. Supporting Coppin B's belief, Kok et

al, (2009) advocate the view that the latest definitions of AI speak of "imitating intelligent human behavior", which is already a much stronger definition.

In conclusion, the word "Artificial intelligence" is not hard to define and most authors tend to agree on the fact that AI is focused on simulating human intelligence and humans try to perfect the training of AI to become an examiner, identify patterns in data and make subsequent judgments with little human intervention.

3. Two branches of Artificial Intelligence

Alongside AI, other terms start coming up such as Machine Learning (ML) and Deep Learning (DL), machine learning, a branch of artificial intelligence and deep learning, a branch of machine learning. Machine learning is a subset of AI, it's one of the AI algorithms we've developed to mimic human intelligence. Machine Learning is a subject of research using computers that simulate and study human learning, a new method for computer self-improvement knowledge and new skills, identifying existing knowledge and continuously improving performance (Wang et al, 2009). Machine learning allows a computer system to predict or make judgments based on past data without being explicitly programmed. Machine learning extensively uses structured and semi-structured data and extensive use of structured and semi-structured data in order for a machine learning model to produce reliable findings or make predictions based on that data. Machine learning is based on an algorithm that learns on its own through the use of previous data. Compared with human learning, machine studying learns faster, and the accumulation of data is added enabling the results of studying to unfold easier.

Deep Learning (DL) is a subset of ML, Deep Learning is a subfield of machine learning concerned with algorithms inspired by the structure and function of the brain called artificial neural networks (Brownlee J, 2017). Deep learning has evolved with the digital age, resulting in an explosion of data in various forms from all regions of the world. Deep learning can take unstructured data in its raw form (text or images) and automatically discover a collection of features that differentiate different types of data. This reduces the need for human interaction, allowing for the usage of bigger data sets. Deep learning can be regarded as a further development of machine learning. Deep learning has evolved in the digital age, leading to an explosion of data in all forms and from all regions of the world. This data, simply called Big Data, comes from sources such as social networks, internet search engines, e-commerce platforms, etc. The most common application of Deep Learning nowadays is the virtual assistant from Alexa to Siri, and Google Assistant. Virtual assistants use deep learning to understand a lot of their topics, from your dinner preferences to spots and most visited or your favorite songs.

4. Positive impacts of Artificial intelligence on journalism

Along with the advancement of science and technology, modern journalism is constantly renewing itself, updating progressive values to create journalistic

works that are not only topical but also creative. The tremendous context of the media's and public life's digitization must be highlighted while examining the implications of AI for journalism, with the ambition of keeping up with the speed of news, unleashing people's boundless creativity, and implementing large projects with the help of technology. All of the biggest news organizations in the world work hard to create or acquire a wide range of AI products, offering an improved information flow quickly and simultaneously building a basis to enable the creation of creative journalism.The tremendous context of the media's and public life's digitization must be highlighted while examining the implications of AI for journalism.

Less bias information

Since the 1920s, objectivity has been used to assess the caliber of journalism as it is regarded as a sign of professional news and is enshrined under accepted journalistic traditions (Streckfuss 1990, Shudson 1978). Objectivity in journalistic activities is understood as the information and reflection of actual events and issues with all of its inherent details, the professional ideology – objectivity as the "professi o nal nature" of journalism ideology" towards quality journalism (Carlson 2018). The belief is that automated journalistic writing may significantly increase objectivity by minimizing bias and getting rid of mistakes made by people because of their emotions, exhaustion, and discouragement. The subjective aims in story selection and arrangement may be specifically undermined by automated journalistic writing (Graefe et al. 2018). By analyzing data to uncover patterns and trends that may be utilized to inform news stories, AI is assisting in reducing bias in news stories. Journalists may create articles that are more factual and objective by using AI-driven algorithms that can identify patterns and trends in data. AI can be used, for instance, to analyze data from social media platforms to discover trends in the kinds of stories that are shared, the subjects that are piqueing people's interests, and the kinds of stories that are disregarded. In addition to reducing bias in news articles, the use of AI in the media also contributes to an overall improvement in the caliber of news coverage. AI can assist journalists in creating stories that are more thorough, timely, and accurate. Melin and co-authors (2018) found that auto-written content tends to be evaluated more accurately, reliably, and objectively. These findings are consistent with Clerwall's (2014) findings that the text generated by the algorithms is perceived to be more informative, more accurate, and trustworthy. AI can also assist journalists in identifying stories that are not being covered by other sites, providing a unique viewpoint on current events. It will be even more crucial for journalists to utilize AI's capabilities as it develops in order to create news reports that are as factual and objective as possible.

Assistant for journalists

Journalism has always been accompanied by technological progress (Altmeppen, 2013: 47). In the era of 4.0 on the throne, AI is the best companion for modern

journalism. AI is primarily used to automate repetitive operations involved in creating articles that follow a general framework. This automation methodology is mostly used to gather massive numbers of urgently needed financial information or sports match data. It can feed text, image, or video elements from data sets, such as media archives, or it can suggest hypertext, i.e: give precise cross-references to pertinent and relevant content concerning specific themes, individuals, or databases. It is also possible to automatically alter text (language), audio and video (crop), and translation for multilingual portals. AI can execute tasks such as speech recognition and translation rapidly and accurately. In addition to assisting journalists in processing vast amounts of material quickly, machine translation, transition to custom content management in articles and audience segmentation. Each group of readers will receive separate content. Aside from assisting journalists in processing enormous amounts of news quickly, machine translation assists in avoiding common errors and omissions, as well as unifying the translation for specific phrases and names. Many foreign press and news agencies have long used machine translation to provide worldwide news. The London School of Economics conducted a study on AI in journalism and discovered that "these technologies will strengthen newsrooms and save vital resources to address significant issues that require journalists' attention" (Beckett, 2019, p. 53). The creation of more space and time as well as the journalist's intelligence to create more practical and creative articles, which AI cannot do.

5. Negative impacts of Artificial intelligence on journalism

There is no denying the advantages and applications that artificial intelligence brings and supports journalists. But it is a fact that "AI is reshaping the journalism landscape as we know it" (Broussard et al, 2019). Every step of the way, the process of adapting technology is a big challenge for journalism, even in terms of dependencies. Advances are almost always accompanied by risks, reservations, skepticism, and rejection. AI is starting to make its manner transversally into the news production method and into the structure and functioning of the media, among them there are many negative impacts, now let's consider what some of those negative effects might be. Here are some of the main ones:

Abuse of robotics journalism

Robotics journalism is synonymous with automated journalism. Robot journalism and automated journalism or even machine-written journalism are used in the same sense (Anderson, 2012; Carlson, 2014). AI can generate news information from structured data and automatically deliver them. Typically, like football matches, it takes even the fastest journalists 5-10 minutes to write and deliver them, but AI only takes a few seconds to produce news as well as post articles to ensure the hotness of the news. Not only that, but AI can also produce news from all aspects of life, including information with content that completely contradicts

the general judgments of society. For example, an unsupervised language model, GPT-2 is built by Open AI which is a non-profit artificial intelligence research company, tasked with writing a response to the prompt, "Recycling is good for the world, no, you could not be more wrong," the machine spat back: "Recycling is NOT good for the world. It is bad for the environment, it is bad for our health, and it is bad for our economy" (Whittaker, 2019). Even policy director of Open AI, Jack Clare asserts: "Artificial intelligence will soon be able to produce fake news that looks reliable or suspicious comments that look convincing". It is dangerous and shivery to unfold these fully untrue articles to the society, they'll build the society intoxicated, creating access to official data difficult.

Unemployment

More than automatic writing was used more in journalism, the phrase "AI journalist" or "robot journalist" began to appear. And whether the technology threatens the employment of humans (Van Dalen 2012). This is all the more possible when there are articles with headlines like: "Can an Algorithm Write a Better News Story Than a Human Reporter?" (Wired), "The Robot Journalist: Heralding an Apocalypse for the News Industry?" (Guardian), "What Jobs Will the Robots Take?" (Atlantic), "Could Robots Be the Journalists of the Future?" (Guardian), etc appear. And it has happened, the most obvious example of this being, in June 2020 tech Microsoft is laying off up to 50 journalists and commuting them with AI robots designed to select appropriate news stories (MailOnline, 2020). The reason for this fear is completely evidence-based. In the past, the print press has caused scribes to lose their job, the telegram has also made couriers less and less, so the fear of robots may do the same to journalists is not entirely valid.

Deep Fakes

Communication and user privacy became keys to understanding concerns about psychological responses to AI agents. One of them is deepfake - the most dangerous problem of identification theft, impersonation therefore the spread of misinformation on social media (Lee, W, 2021). AI agents mostly feature preeminence based entirely on voluntary and involuntary sharing of users' private information. One of them is deepfake - the most dangerous problem of identification theft, impersonation. According to Korshunov and Marcel, a deep fake is a manipulation technique that allows a user to swap out a person's face. The discovery sparked a media frenzy, followed by a deluge of new deepfake videos surfacing. The most convincing deepfake examples are in 2018 BuzzFeedVideo made a deepfake of former President Barack Obama. This video accurately and perfectly imitated the voice and movements of the person in the video, to the point where it was hard to tell it wasn't the real person. There's a danger in deep fake videos with fabricated and untrue content that they receive more viewership. The

obvious proof is the video titled "You Won't Believe What Obama Says In This Video!", which has garnered 5 million views and over 83,000 shares on Facebook and 5 million views on YouTube, received 4.75 million views and nearly 52,000 retweets on Twitter (Facebook, 2018; Twitter, 2018; YouTube, 2018). Deepfake videos are often targeted at influential people like celebrities or politicians. Thus readers will be wary of and trust all news, including mainstream news, especially the fastest media of social media, trust is now lower than in news accessed through other channels (Newman et al., 2018). Deepfake is of greater concern to journalism, since politics and journalism have intensely intertwined, a method typically spoken as "mediatization" of politics and a healthy democracy (**Nael Jebril and Claes H. de Vreese, 2014)**. Based on these findings, we claim that, if deepfakes are not controlled soon, the proliferation of these political spoofs will have unpredictable consequences.

Undermining creativity

We argue that creative thinking is prime to distinctive and acknowledging the range of journalism. Indeed, creativity is the core construct of journalism (Mohamed HASSOUN, 2019), creativity not only creates a literary style, a technique that is not duplicated, it additionally distinguishes elite and real writers. However, this creativity might even be eroded, if AI is actively utilised in journalism. Since the support in serving to assemble data and understand the requirements of the writer, so recommending applicable information to the highest of the page, which became captivated with them, and somewhat hooked on them. Creative activity is the method by which members research and explore several sources of data, which is the foundation for forming critical thinking and increasing multi-dimensional perception and gathering information from many sides of interests.In contrast to human-written journalism, auto-written journalism is incapable of identifying, creating, organizing, or communicating stories (Melin et al. 2018). Automatic writing is unable to effectively employ linguistic nuances, such as humor, irony, and metaphors, which are important in more complex storytelling. As a result, auto-written stories frequently sound technical, uninteresting, and unreadable (Latar 2015). On the other hand, human reporters can craft nuanced, imaginative, and contextualized tales drawn from various sources. A full journalist is a person who is attentive to combatant on many various and profound genres without being "framed and confined" within the scope and limitations of a variety of common print media genres. For this part, Later notes: "AI algorithms cannot "think" out of the abstract framework created for them by their human algorithmic program designers, they're unable to accomplish the simplest level of ability that desires the flexibility to adapt to new unexpected abstract framework shifts." Therefore, once journalists are restricted in thinking and affected by vogue in a news framework that AI has,

it'll definitely be troublesome to make breakthrough ideas which will gradually lose the inventive desire.

6. Conclusion

It is possible to envision how the strong advancement of artificial intelligence technology could both propel and present a significant problem for the media. However, at present, AI still has a very important position within the big newspaper office, the use of AI in journalism has improved workflows, and this trend will continue. As a rule, though, increasing levels of support also means increasing dependency, therefore, journalism should find a way for humans and AI to still collaborate, with AI serving as a supporting "secretary" who makes the journalist's job simpler and more effective. However, the 4.0 revolution is happening at a dangerously fast rate, therefore it's critical to build urgent, long-term solutions for the advancement of the journalism and media industries as well as to plan for specific remedies and contingencies in the event of a flourishing AI scenario./.

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