JOURNALISM IN THE TWENTY-FIRST CENTURY AND THE IMPLICATIONS OF GENERATIVE ARTIFICIAL INTELLIGENCE IN NEWS PRODUCTION AND DISTRIBUTION

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Abstract_This article examines Journalism in the rapidly changing world and how our understanding of Journalism has rapidly changed and still changing in the era of technological advancement of smartphone, blogs, social media and new styles of publication and broadcast. Few decades ago, Journalism used to be a step by step procedures that needed to be followed judiciously. The different types of twenty-first century Journalism was highlighted. It also examined Computational or Data Journalism as the next big thing of our time, which makes use of Artificial Intelligence (AI), Data Mining, Content Analysis and Visualization to execute various levels in Journalism processes, stating the advantages and disadvantages of it. The paper also highlights the implications of generative Artificial Intelligence in news production and distribution as well as the power imbalances between platform companies and news industry. Recommendations on how Artificial Intelligence can be regulated for optimal utilisation were also given._
Keywords: Artificial Intelligence, Journalism, News Production, Platform Companies, Ethical consideration.

IntroductionAs the world becomes more complex and more advance in technologies, journalism has taken a whole new face. Recently the way people view journalism is different from how it was viewed ten to fifteen years ago. In this technologically advanced world, journalism has gone beyond just collecting, writing and publishing articles, stories and events in newspapers and magazines or airing them on television or radio, days or weeks after they happened. The definition of Journalism in the twenty-first century entails access and timely delivering of news or information. It involves publishing or broadcasting of news or events as they happen. People do not have to wait for days or weeks to hear about an event or information that took place days ago.

Few decades ago, Journalism used to be a step by step procedures that needed to be followed judiciously. An event would have been difficult to cover or recorded without heavy cameras to record and take photographs. Also, a journalist had to belong to Union or member of a media organization with professional qualifications and he/she had to work in a media organization that is well recognised before he/she can practice. But today, all these protocols are irrelevant as we now have smartphones with internet connection to take photos and record anytime and anywhere with instant live streaming. In the twenty-first century, anyone and everyone can become a journalist instantly without any professional training. This is so because the internet and social media have made everything transparent and accessible. With many online platforms like Twitter, Facebook, Instagram, etc to get current information as they are happening as well as share them, journalism has gone far beyond press conferences, press releases, print and broadcast channels. As the world continues to globalized and become more complex with new and emerging technologies, traditional media has been demystified and the economic recession in the country is making things worse with massive layoffs of staff of traditional media.

The advent of WWW made it easier for people to have access to information (Castells, 2010). This has significantly altered the way people accept and respond to information due to the interactive nature of the internet (Bolano, 2015, p.182). Advancement in technology has been a fundamental driver of media evolution (Napoli 2011, p.27) and have changed the way news production take place. The disadvantage of the new journalism in this advanced technological age is that, since everyone and anyone can make and share news and information, it cannot be trusted and reliable. In a rapidly changing world where information flow becomes faster, reporters are always put on pressure to report stories as soon as they break. It becomes harder for them to be accurate and balance their news or stories, whereas in the past, they had enough time to write down what had happened.

For better understanding of Journalism in a rapidly changing world, lets briefly discuss few modern-day journalism; Mobile, Online/Digital and Citizen Journalism. Mobile journalism entails gathering and delievering news using a smartphone. Trained professionals also engage in this type of journalism because it is a new trend in news covering and gradually becoming the new standard in reporting breaking news. Journalists are their own camera person and editorial at the same time. The advantage is that it does not need larger crew and heavy equipment to report on stories so there is increase mobility of journalists to access places previously inaccessible with heavy equipment, like crime scenes, natural disasters, etc. It also enhances the safety of journalist in the sense that instead of big and heavy reporting equipment, a smartphone is less noticeable and better to blend in the crowd. Online journalism involves distributing editorial content through the internet instead of publishing it through broadcast or print media.

This method is less costly and readily available. The advantage is that it makes news interesting because of it interactive nature and multimedia forms like audio and video, etc. There are no restrictions to online news and it is less cumbersome for journalists to discover newstories, present, monetized and archived news. With smartphone, laptop/computer with internet connection, one can get access to online news effortlessly. The cost of distribution is low and there is no core need for creativity in online joirnalism. Citizen journalism is carried out by people who are not professional journalists or media practitioners. These people use the blogs, social media and websites to disseminate information and news. Although, there are a lot of debates and disagreement about the reliability of citizen journalists, but they have made alot of impact when it comes to providing instant text and visual reporting from the scene.This type of Journalism is handy especially in a country affected by political upheaval or countries where both broadcast and print media are government owned and controlled. The problem with citizen journalism is the accuracy of it because people involved in this are not professionals and they are not aware of the ethics of the profession. Aside from the hiccups, citizen journalism has played a big role in today's political events. The Twitter websites which serves a major player in dissemination of information during the "endsars" and end bad government protests. The protest actually started on Twitter before it progressed into a nationwide protest. Even when the protest escalated in Lagos state, citizen journalists helped in recording the horrible event live as it was happening.

Technology Advancement And Journalism In The 21ˢᵗ Century: a Shift From The Traditional Journalism The advancement in technology has brought about an increase in interconnectedness in fields of studies. Advancement in technology is embedded in globalization that has brought changes around the world in in terms of culture, education, communication, and language (Etim-James and Omini, 2024). This is an era of interdisciplinary studies where other field of research merged to create a new one. For instance, Computational Journalism came about as a result of an entanglement between computer science and social science. This new field is

gaining ways in prominent media organisations over the world, especially in advanced nations, like United Kingdom, Sweden, Germany, America, etc. This is an advancement in how news are prepared and delivered to the world and most especially, how it is filtered. Apparently, this process allows one to view any news or information in a more interactive manner using an electronic display (Negroponte,1995.p.20). Computation has drastically advanced journalism by using innovations in topic detection, aggregation, video analysis and visualization, leading to reduction in cost of in-depth public affairs reporting (Cohen et al., 2011, p.66).

Although, we cannot ignore the role of the media, both Print (Newspapaer) and Electronic (Television) have played as major channels for knowledge and information from it inception. From carrying information to assisting in establishing democracy in several countries across the globe. But due to technological advancement, the way people received information and responded to it has changed a great deal because of the interactiveness of the Internet (Bolano, 2015.p.182). Interactivity allows online users to participate and control online content and forms (Steuer,1992) cited in Paulussen, 2004.p.73-93), in the area of responsiveness and flexibility. This advancement has changed the traditional methods that were used in news production on platforms that allow huge amount of data.

As a result of an increased collaboration between journalist and programmers, new forms of journalistic practices have emerged such as computer assisted reporting, Data or Computational Journalism, etc. This has made more programmers to move into professional newsroom and Journalists have become attached to programming's technical capabilities (Coddington, 2016, p.332). Computational Journalism is here to stay and from the look of thing, might completely erase old discipline or alter it. It is a broad subject that centers on how computer software and tools are developed, implemented and used in news gathering, verification and dispersion of news reports. Thus can be seen from the closure of some newspaper outlets, while others have transitioned into the new normal. This field makes use of Artificial Intelligence(AI), Content Analysis and Data Mining and Visualisation, to mention a few, to develop and implement various stages of Journalism, while adhering to journalistic values at the same time, which includes, reliability, accuracy and truthfulness. Other areas covered by this concept are news discovery, presentation, summation, monetisation and archiving. According to Cohen et al, 2011, the ability to draw from experience of previous computer-assisted reporting, a new way to minimise the cost and difficulty of an indepth public affairs reporting is underway, thanks to the collaboration of journalists and computer scientists(p.66). This new forms of journalistic practice has helped journalists to handle large amounts of structured and unstructured data, in order to understand the public sentiments and the movements of information on social networks. The increased involvement of technologies in news industry has reduced the costs associated with market coordination, while increasing the scope of activities associated with these tools (Sundararajan, 2015).

Although, the earlier system of publishing news has always made use of technology, but not on a deeper level as computational journalism, as it explores how technological advancement has delved into journalism through the use of software and algorithm to collect and check credibility of news stories. It also makes dissemination of news on all social networks effortless as well as making fact verification possible. The spreading of information in the old method was expensive and time consuming but now the use of viral videos and blogposts are becoming popular. Even Wikileaks which aim to safeguard and reveal certain controversial information, came as a result of this new field of study.

Despite it numerous advantages, there are still some aspects of it that can be considered as

disadvantage. For instance, with the fact verification made possible, journalists could be tempted to jump into conclusion, forgetting that most information on it are as bias and unreliable as human sources. However, presenting data as a form of journalism requires that we subject the data to a journalist process. So many data on the platform are full of error, bias, misunderstanding and misleading and modern day journalists feel that they are absolved from any ethical consideration when they use data from these platforms since it makes fact-finding possible. But they forget that data originates from and involves human beings and as such, it is bound to have errors, fallacies and partiality in them.That makes it unethical to publish whatever information derive from them without proper investigation of data sources to avoid any potentiality that could make you have a false conclusion. According to (Rosen 2005; Rosen 2011), new form of journalism has created a problem now known as jurisdictional issues. This has generated debate between bloggers and Journalists. Wu, 2010, p.14, reiterated that new shift in technology in the sector of journalism brings along a promise of better forms of journalism and communication but eventually reveals its flaws, kinks and limitation. Consumers sometimes face tough decision in choosing accurate information or news from both.

Social Media And 21ˢᵗ Century Journalism

The role of social media in journalism cannot be overlooked in this digital era. "As media and life coevolve in ways governed by the many mixed and altogether messy ways in which machine and humans co-create each other "(Deuze, 2012, p.68), traditional news methods have been overshadowed and the internet's power to shift from journalistic elite to bloggers, social networks and consumers (Curran et al.,2016, p.18), have ease accessibility of information technologies needed to collaborate, create value and compete, at everybody's fingertips (Tapscott et al.,2006, p.10). Journalism is constantly undergoing revolutionary changes due to platforms like Twitter, Facebook, Instagram, TikTok. These platforms have reshaped news delivery, presentation and timeliness. Audience no longer have to wait for morning papers or evening broadcast because journalists now leverage on these platforms to deliver immediate news updates. This creates a good opportunity to tap into public opinion to keep journalism close to readers (Stavelin, 2014 p.70). Social media has given rise to citizen journalism whereby anyone with a smartphone can report live events. This helps to add new voices and diverse views to the news ecosystem. Although, it maybe difficult to distinguish between news that is relevant and true from news that is invalid because a lot of news update on social media are not verified.

However, with the sharing mechanism of social media, audience has been shifted from being mere observers to active participants. It becomes possible for news organisations to engage directly with their audience, thereby creating a more interactive news experience. In cases of authoritarian government, social media platforms and blogging sites are becoming the sources of regular news and information. A perfect example is WIKILEAKS, a platform that protects and exposes controversial documents across the globe (Morozov, 2011). With platforms providing alternatives, the power of traditional mass media model is moderated (Benkler, 2006, p.18) thereby encouraging new platforms for citizen journalism and new bloggers to provide further information on stories (Bruns, 2008).

There are a lot of mixed reactions trailing social media. While many have openly spoken about the benefits of this brand of journalism, others have emphasized on its downsides. Social Media have broken the endless monopoly of the mainstream media and members of the public are no longer helpless consumer Ms of news but content creators, making modern journalism democratic and participatory. Through the use of blogs, many content creators have revealed stories about political corruption, police brutality, end bad governance and other issues of concern to both local and national communities.

Desputes the many benefits of social, the downsides cannot be overlooked. There has been questions about the veracity of social media content. Many people have criticized its content as a new way of spreading falsehood and unethical practices in the name of sourcing news from anonymous sources. Although, in most cases, the news could be factually correct but may be clouded by many flaws like lack of objectivity, impartiality and blatant disregard of ethics. On other occasions, some news contents on social media could be a hidden agenda or a defamatory statement, putting subjects in the story in bad light. The process of verification and checks which is present in the mainstream media, are lacking because this process is usually done by experienced and trained journalists and editors. Some critics of modern journalism are convinced that it lacks veracity. Dare (2014, p.44) discovered that out of 120 surveyed, only 33 respondents trusted Sahara reporters. This shows that most people do not believe stories from modern journalists.

Other critics are of the opinion that blogger/content creator fuels civil unrest, ethno-religious crisis and political instability. When bloggers misinformed the activists, it could make them gang up against the government. Modern journalism has contributed to trivializing issues of national interest and national calamities. We saw this play out in the case of the mistaken fall of the president, Bola Tinubu, during the May 29, democracy day at the stadium, the health saga of the former president, Muhammadu Buhari and in the hate speech of the 2015 and 2023 general elections. In addition to this, there is an outcry in the conduct of modern journalists during crash/accident. While rescue operators struggle to survivors, citizen journalists are only concern about taking and uploading gory pictures and videos through their blog.

The Implications Of Generative Ai (Artificial Intelligence) In News Production And Distribution
There has been many debates about how AI(Artificial Intelligence) should be defined, although there is no universal accepted definition nor consensus about what constitutes Artificial Intelligence. In all of these, there is a general agreement about what Artificail Intelligence is not. Artifcial Iintelligence is not generally intelligent to understand and work across domains. Elena Esposito, a sociologist argued that "what algorithms are reproducing is not the intelligence of people but the informativity of communication." She further states that interacting with Artificial Intelligemce reveals that it is not an artificial form of intelligence but rather an artificial form of communication. Even though generative Artificial Intelligence is stiffening this argument because of it abilities to facilitate outputs previously perceived to be done only by humans.

Artificial Intelligence comprises of a wide range of applications with diverse stages of complex, autonomy and abstraction doing various defined tasks and problems. The news industry make use of Artificial Intelligence to communicate with colleagues, partners or the public. There are several reasons why news organisations adopt generative Artificial Intelligence. It is no news that the world is experiencing several technological developments and many news organisations recognise the advancement in Artificial Intelligence and the larger rollout of these tools as well as the extent to which it can be used positively, especially with the collapse of the traditional business model of news delivery. Artificial Intelligence gives a bit of hope to several media industries experiencing certain strain for cash, new business models, etc. These media industries under severe need for cash adopt Artificial Intelligence technologies to increase their audience, subscriber base as well as the time people are spending on their page scrolling and viewing ads that are along the page. Another reason is new organisation competitive nature. Some media houses are plagued by concerns that their innovations are lagging behind others, so there is always a strong motivating factor for introducing Artificial Intelligence.

One area where Artificial Intelligence has really impacted significantly is in content creation, especially with it ability to produce sizeable amounts of content within a short time. These contents range from news article, blog posts, videos, music, etc. There are three main types of AI-generated content.
(a) Human-assisted content as in the case of a writer using AI-powered tool to generate ideas for an article.
(b) Machine-created content as in news organisations using Artificial Intelligence to write sports articles based on game statistics.
(c) Automated content as in a website using Artificial Intelligence to generate weather reports.

The birth of generative Artificial Intelligence has increased the degree of creativity in media industries, in terms of production and distribution. Artificial Intelligence system can be used from start to finish in any production process. For example, when it comes down to 'Access and Observation', Artificial Intelligence is used for information discovery, story detection, trends analytics, prompting for new ideas following from news story. In 'Selection and Filtering', Artificial Intelligence system is used for fact-checking, content categorisation, transcription and translation of audio and video, etc. For 'Processing and Editing', Artificial Intelligence is used for brainstorming and ideation, content production, formatting of content for online, social media, print as well as copy editing and SEO suggestions. For 'Publishing and Distribution ', Artificial Intelligence is used for personalisation and recommendation, audience analytics and content moderation. With AI's ability to create content round-the-clock with consistency and accuracy, the need for human editors and writers will reduce allowing news industry to invest more in other areas of their operation. Machines do not get tired or make errors due to stress or fatigue, this makes Artificial Intelligence output objective and not influenced by human emotions or biases. Although Artificial Intelligence can produce content with great consistency and accuracy, it still lacks creativity and intuition. It contents often lack originality and imagination, since it is functioning based on preprogrammed algorithms.

Can we then say that Artificial Intelligence makes a difference in the production and distribution of news? The right answer to give is, it depends, being that the production and distribution of journalism is a complex technical system and any attempt to disrupt the status quo by introducing Artificial Intelligence may result to resistance. This resistance could take the form of adverse public opinion, legislative conditions, insufficient data and technical infrastructure, lack of skills, etc. Inasmuch as there are some standard procedures in the production and distribution of news, it is not usually a neatly defined components that can be automated with Artificial Intelligence. News production, most of the time is messy and unpredictable, depending on the story or project and timeframe. The unpredictable nature of news production is what makes it unsuitable for automation. Using investigative journalism as an example, involves large datasets. Although machine learning can streamline certain tasks, the bulk of the process cannot be handled by machine. There are many steps in investigative news that one cannot automate easily. The job of journalist is to find stuff that is not already on the internet, Artificial Intelligence cannot do that. How is it possible to find any exclusive stuff in any kind of Artificial Intelligence? Artificial Intelligence will not automatically improve Journalism nor the quality of information available to the public. It is impossible for Artificial Intelligence to convey the horrors of war by going to war zone, neither can Artificial Intelligence talk to a mother of starving children of war nor can it gain the trust of a whistleblower leading to the uncovering of massive corruption story. All these can only be done by humans. Also, Artificial Intelligence cannot understand human emotions and behaviour, most of it contents can be insensitive or inappropriate. So the quality of information available to the public is determined by humans not Artificial Intelligence. This means that the application of Artificial Intelligence in news industry is far from being uniform

because the complex realities of news publishing often limit how Artificial Intelligence can be used. Experts agree that although Artificial Intelligence is a useful tool for Journalism, people are still needed to oversee its application.

Another implication can be seen in platform companies like Google, Facebook, Twitter, Apple, etc becoming actors in the news by providing access to audience and direct readers towards news content. News industries now depend on these platforms for distribution, giving these platforms more power to shape the flow of attention online. These platform companies also provide other important services to news industries such as cloud storage and computing, app development, advertising exchange, revenue sharing agreements, etc. With this, Platform companies are likely to dominate the news space and dictate what the platform regard as news. The salient question now is: based on these platform companies' relationship with news industry and their centrality to the Artificial Intelligence space, how relevant is their role in shaping the news industry with the use of Artificial Intelligence? Will it not affect the news we get to see?

To answer the above question is to view the aspect of the media's autonomy. Autonomy is simply defined as the absence of external control or influence in decision making. With the presence of these platform companies and the reliance of news industries on them, can we truly say that news industries are autonomous? News organisations heavily depend on the physical or digital resources and services of an external actor thereby losing some of its autonomy. The reliance of news industry and the complexity of Artificial Intelligence increases platform companies control of news industries by creating lock-in effects which keeps news organisations clued to their services and products. This leaves news industries vulnerable. Most platform companies have artifactual and contractual control over their Artificial Intelligence giving them the legal right to decide what activities are permitted or restricted. This power imbalance between platform companies and news industries put the latter at the mercy of the former. Artificial Intelligence system can limit discretionary decision making and journalistic values of news industry by structuring their views of what is news worthy or by introducing bias or errors into their output. The use of Artificial Intelligence by platform companies has weakened the structural role of the news by shaping what audiences see online. These platform use Artificial Intelligence to rank, curate, filter and display information on audiences' social media platforms and search engines.

Conclusion As the world continues to globalized, innovation thrives and wisdom increases, humans are creating ways to adapt to the ever changing world. It is for the better and it has made life to be much easier because now,we can be in the comfort of our room in Nigeria and get to know what is happening in Europe with just a touch of a button. As we continue to explore the world of Journalism with the help of technological advancement. Computational Journalism emerged as a result of this technological growth which is of immense advantage and disadvantage at the same time. With it, several other forms of Journalism have come into existence, making dissemination of news become inexpensive and timely. The essence of both journalism and information technology is to provide integrity and reliability of available information in order to mimimise misinyerpretations and lack of sense and direction in the society (Flew et al., 2012). Good journalism aims to enlighten the society to build wiser opinions in order to discover truths and if required take a stand against unfair policies (Dorr & Hollnbuchner, 2016). Although, some ethical considerations are always bound to be overlooked in certain situations, a knowledgeable user must be able to transform facts to truth the same way data is being transformed to information (Stavelin, 2013, p.78).

The use of AI in news production and distribution is a welcome development as it is cost effective and timely. AI on it own can do nothing, it only works based on what humans programmed into it.

No matter how effective we think AI is, humans are still needed for effective and efficient operation. As AI continues to be modified, news industry needs to also understand that AI can be used both as a tool and as a threat, due to the number of ethical and legal issues like accountability and intellectual property theft. The reliance of news industry and the complexity of AI increases platform companies control of news industries by creating lock-in effects which keeps news organisations clued to their services and products.

Recommendations
Moving forward we should think of better ways media and news industry representations of generative AI should be;
1. It is imperative to develop frameworks to balance AI innovations in the news industry to properly address issues like copyright. The fact still remains, not all of the work can be done by news industries. It is on this note that AI guidelines should be established.
2. AI may not have the capacity to solve all the deep-rooted problems and challenges in Journalism and in the society but it can be used to address some of the issues like political, social and economic ills.
3. AI should be put under scrutiny because of it concentration of control by a small handful of platform companies who are just ot to generate revenue and new business opportunities. Government should implement policies and regulate control over thes platforms stranglehold on people's attention and information as well as their capacity to manage, process and serve information.
4. With the growth of AI and it ability to assist in spreading misinformation, Journalism industry should adopt uniform standards and best practices on the use of this new technology since it credibility depends on trust.
5. There should be more reporting about what these tools do and how they actually work- and don't. Newsroom should concentrate on answering questions about who gets to train these models and what flaws and biases will be potentially baked in.
6. Reevaluation of comments on generative AI is needed to know whose comments are considered newsworthy.
7. When a journalist uses AI to generate content, it is important he/she discloses this information to ensure readers know what they are reading, if they must maintain trust and credibility in the profession.
8. Journalists must ensure that they have necessary lincenses and permissions to use the technology in order to avoid intellectual property theft.
9. Journalists must be accountable for the content they produce by providing process for addressing complaints or errors.
10. Journalists must comply with data protection and ensure they need to balance the benefits and risks of AI generated content with ethical and legal frameworks.
11. Finally, quality control is very relevant if AI generated content must maintain the same high standards of quality as traditionally produced content.

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