



DATA JOURNALISM AND ITS CHANGING ROLE IN NEWS GATHERING AND WRITING IN THE 21ST CENTURY

Ainakhuagbor Aimimode¹, Arikenbi Peter Gbenga¹,

Ikharo Seluman¹ and Ekhueorohan Osayuwamen Timothy²

¹Department of Mass Communication, Edo State University Uzairue, Edo State

²Department of Journalism, Media and Communication, University of Strathclyde, United Kingdom

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ABSTRACT: *In the rapidly evolving landscape of journalism in the 21st century, data journalism has emerged as a transformative force, reshaping the way news is gathered and written. In light of the above, this study examines data journalism and its changing role in news gathering and writing in the 21st century. The researcher embarked on this study basically to examine the roles of data journalism in news gathering and writing, examine the extent to which data-driven storytelling has influenced the credibility, engagement, and audience perception of news stories and explore the challenges and ethical considerations faced by journalists in integrating data-driven content into their reporting. This study is anchored on the uses and gratification theory. The researcher adopted the secondary method of data collection. Findings reveal that data journalism plays crucial roles in news gathering and writing, revolutionising how stories are researched, reported, and presented. The study also found that data-driven storytelling has significantly influenced news stories' credibility, engagement, and audience perception, reshaping how information is presented and received. This study concludes that data journalism has emerged as a transformative force in news gathering and writing in the 21st century. With advancements in technology and the increasing availability of data, journalists have begun harnessing their power to uncover meaningful stories and provide accurate and insightful reporting. Based on this study's findings, this study recommends that journalists should prioritise ongoing training and skill development in data analysis, visualisation tools, and storytelling techniques. This will empower them to work with data effectively, create engaging visualisations, and craft compelling narratives that resonate with modern audiences.*

KEYWORDS: Data Journalism, News Gathering, Writing,



INTRODUCTION

Data journalism has emerged as an essential component of modern news reporting, revolutionising how we consume information in the 21st century. With the advent of technology and the increasing availability of data, journalists have embraced data-driven storytelling to uncover hidden stories, provide in-depth analysis, and hold institutions accountable.

Bradshaw and Rohumaa (2011) noted that data journalism traces its origins to the roots of investigative journalism. Journalists have long sifted through vast amounts of information to support their stories. However, with the advancement of technology, the rise of digital media, and the increasing accessibility of data, data journalism has flourished. Using data-driven techniques in journalism has led to greater precision, credibility, and audience engagement. Journalists now have the ability to analyse large datasets and identify patterns, trends, and connections that could otherwise go unnoticed.

In the past, news stories relied heavily on anecdotal evidence, personal interviews, and expert opinions. However, with the introduction of data journalism, journalists have started integrating quantitative data and statistical analysis into their reporting. This shift has enabled journalists to provide a more comprehensive and accurate understanding of complex issues (Cottle, 2014). Data journalism allows for informed and evidence-based reporting, exposing systemic problems, inequalities, and manipulations that might not be immediately apparent.

The role of data journalism in news gathering has extended beyond simply utilising data to support existing stories. It now plays a pivotal role in identifying newsworthy stories itself. By analysing massive datasets, journalists can uncover surprising correlations, uncover unreported stories, and challenge the status quo. For example, The Guardian's "The Counted" project used data to document and track police killings in the United States, highlighting the issue and forcing it into a national conversation.

Gray (2012) noted that data journalism has not just transformed news gathering; it has also had a tremendous impact on news writing itself. Journalists increasingly use data visualisation techniques to present complex information in accessible formats. Through interactive charts, maps, and infographics, data journalism enables readers to engage with the data, understand trends, and draw their conclusions. This departure from traditional text-based journalism enhances the reader's understanding and encourages critical thinking.

Moreover, integrating data in news writing helps journalists communicate complex information concisely. Data journalism breaks down intricate details into digestible pieces by presenting key insights through visuals and engaging narratives. This breakthrough allows readers to comprehend complex issues more easily and encourages them to become informed citizens.

Data journalism presents unique challenges and opportunities. One challenge is ensuring data accuracy and reliability. Journalists must verify the authenticity of data sources, use rigorous methodologies for analysis, and remain transparent about limitations or assumptions made during the process.

Data journalism has the potential to create a significant impact on society and democracy. Journalists can hold institutions, governments, and corporations accountable by leveraging data. Through rigorous analysis, data journalism reveals patterns of corruption, inequality, and



misuse of power, empowering citizens to demand change. By presenting empirical evidence, data journalism strengthens public discourse and promotes informed decision-making (Rogers, 2018).

Furthermore, data journalism enhances civic engagement by making complex issues more accessible to the public. Presenting data in user-friendly formats enables citizens to understand and navigate critical topics. This fosters an engaged and informed society, empowering individuals to participate actively in democratic processes.

In a world increasingly driven by data, data journalism has evolved to become an indispensable tool for news gathering and writing in the 21st century. Its ability to uncover hidden stories, present complex information, and hold institutions accountable has reshaped the journalistic landscape. As technological advancements continue, data journalism will play a pivotal role in promoting transparency, empowering citizens, and ensuring a thriving democracy.

Statement of the Problem

The landscape of journalism is undergoing a profound transformation due to the proliferation of data-driven practices. Traditional news gathering and writing processes are being redefined by integrating data journalism, a practice that leverages advanced data analysis techniques and visualisation tools to uncover, contextualise, and present complex narratives. Data journalism can potentially revolutionise how news is gathered and written. However, there are a number of challenges journalists face when using data. These challenges include the cost of data collection and analysis, the technical skills required to use data effectively, and the ethical considerations of using data.

As a result of these challenges, data journalism is not yet widely recognised and adopted by journalists in the writing and gathering of news. In light of this, this study examines data journalism and its changing role in news gathering and writing in the 21st century.

Objectives of the Study

The objectives of this study are as follows:

- i. To examine the roles of data journalism in news gathering and writing.
- ii. To examine the extent to which data-driven storytelling has influenced the credibility, engagement, and audience perception of news stories.
- iii. To explore the challenges and ethical considerations faced by journalists in integrating data-driven content into their reporting.

Research Questions

Based on the objectives of this study, the following research questions were formulated to serve as a guide for this study;

- i. What are the roles of data journalism in news gathering and writing?
- ii. To what extent has data-driven storytelling influenced the credibility, engagement, and audience perception of news stories?



- iii. What are the challenges and ethical considerations faced by journalists in integrating data-driven content into their reporting?

LITERATURE REVIEW

Concept of Data Journalism

Today the term data journalism still remains confusing even among journalists. Some argue that it cannot be defined as journalism, while others claim it could be the beginning of a new era in journalism (Rogers, 2013). There are different definitions and terms to describe data journalism, for instance, data journalism, data-driven journalism, database journalism, computational journalism or data visualisation. Rogers (2013) defines data journalism as having —a wide range of styles, from visualisation to long-form articles. The key thing they have in common is that they are based on numbers and statistics and should aim to get a story from that. Lorenz (2010) describes data journalism —as a workflow where data is the basis of the analysis, visualisation and -most importantly- storytelling. Additionally, Hamilton and Turner (2009) use the term computational journalism to refer to the kind of journalism that incorporates algorithms, data and knowledge from the social sciences in order to make journalism more accountable.

Data journalism can also be seen as a journalism speciality reflecting the increased role that numerical data is used in the production and distribution of information in the digital era. It reflects the increased interaction between journalism and several other fields, such as design, computer science and statistics. From the point of view of journalists, it represents an overlapping set of competencies drawn from disparate fields.

Data journalism has been widely used to unite several concepts and link them to journalism. Some see these as levels or stages leading from the simpler to the more complex uses of new technologies in the journalistic process.

Combining all the elements that are included in data journalism, there is a final definition adopted by Veglis and Bratsas (2017) where they noted that data journalism could be defined as the process of extracting useful information from data, writing articles based on the information and embedding visualisations (interacting in some cases) in the articles that help the readers understand the significance of the story or allow them to pinpoint data that relate to them.

Many claim that data journalism has its roots in Computer-Assisted Reporting (CAR) (Felle et al. 2015). But, actually, it is different from CAR, as it covers the whole work done between journalism and computing while giving respect to CAR as it is grounded on better foundations (Gray, 2012).

The most important advantage, though, regarding the increasing rise of data journalism is the exploitation of the power of the internet. Nowadays, journalists can find data online, and they can use a vast majority of tools and programs to clean them, analyse them and create the right visualisations. Moreover, the spread of the web means that there is room for open journalism. People who read the stories can also make comments and get involved in the story. Data journalism becomes part of this by exposing the data and encouraging people to search for it



and find something —new in the news (Rogers, 2013). Another aspect of data journalism is crowd-sourcing, where people are asked to contribute to the process of collecting data along with the journalists when the latter cannot find the data in any other way (Rogers, 2013).

Some consider data journalism to be only numbers and graphics that require mathematical skills as well as coding skills, which are out of a journalist's expertise. Others oppose the influence of the internet, as they only believe in traditional journalism and media outlets. However, data journalism is as much a kind of journalism as all the others. It follows the same fundamentals of finding a good story. The only difference is that the story is mainly based on information that comes from data and not traditional sources, such as contacts, interviews or press releases. This does not mean that there is no reporting, as data journalists still need to contact sources and ask the right questions to add more context and make the data more understandable.

Importance of Data Journalism

In the digital age of the 21st century, data journalism has emerged as a vital tool for news organisations around the world. Data journalism involves the collection, analysis, and presentation of large sets of data to uncover meaningful insights and enhance the quality of news reporting. The following are some of the importance of data journalism as enumerated by Srinivasan (2015):

- **Improved information accessibility:** One of the key reasons for the growing importance of data journalism is its ability to make complex information accessible to a wider audience. By utilising data, journalists can present stories in an engaging and interactive way, enabling readers to explore the information at their own pace. This approach promotes transparency and empowers citizens with actionable information, fostering an informed society.
- **Fact-checking and verification:** Data journalism plays a critical role in fact-checking and verification, ensuring the accuracy and reliability of news reporting. By rigorously analysing datasets and cross-referencing information, journalists can uncover hidden patterns, detect biases, and expose misinformation (Srinivasan, 2015). This practice holds institutions accountable, preserves the integrity of journalism, and strengthens public trust in the media.
- **Uncovering insights and trends:** Data-driven reporting allows journalists to uncover insights and reveal underlying trends that might otherwise go unnoticed. By analysing large volumes of information, journalists can identify patterns, correlations, and outliers, providing a more comprehensive understanding of complex issues. Data journalism provides a valuable context to news stories, enriching the public discourse and deepening our understanding of societal phenomena.
- **Enhancing storytelling and engagement:** Data visualisation techniques have revolutionised storytelling by making complex concepts more accessible and engaging. Infographics, interactive charts, and maps enable journalists to present data-driven stories visually appealingly. Such visualisations allow readers to grasp complex information quickly, making stories more memorable and improving public engagement with news content.



- **Support for investigative journalism:** Tandoc (2019) noted that data journalism has become an indispensable tool in investigative journalism. Journalists can delve into large datasets, uncover hidden connections, and expose corruption, fraud, or other questionable practices. By harnessing data, investigative journalists can corroborate stories, highlight trends, and provide evidence for their claims. Data journalism serves as a catalyst for accountability and promotes social justice.

In the 21st century, data journalism has acquired a central role in news gathering and writing. It has transformed the way news is presented and consumed by leveraging data to enhance transparency, fact-checking, insights, storytelling, and investigative reporting. By utilising data-driven approaches, journalists can better understand complex issues, empower citizens, promote accountability, and foster a more informed society.

Changing Role of Data Journalism in News Gathering and Writing

Data journalism has revolutionised the way news is collected and presented in recent years. With the continuous advancement of technology and the abundance of digital information, journalists are now able to gather, analyse, and interpret data to uncover meaningful stories and provide deeper insights to their audience.

Data journalism emerged as a result of the digital age, where information is readily available and easily accessible. Journalists have recognised the potential of utilising data to enhance their reporting and provide comprehensive analysis. This new form of journalism involves collecting and interpreting large datasets to uncover patterns, trends, and anomalies that might not otherwise be evident (Tandoc, 2019).

Data journalism has significantly impacted the way news is gathered. Journalists now have access to vast amounts of data from multiple sources, including government agencies, research institutions, and online platforms. This abundance of data provides opportunities to discover stories and verify information that traditional journalism techniques may have missed. Also, Mayhew (2017) states that data journalism has become a powerful tool for investigative journalists. By harnessing data analysis techniques, reporters can uncover hidden connections, expose corruption or inefficiencies, and hold public institutions accountable. A prime example is The Panama Papers investigation, where data journalists collaborated to expose the offshore activities of the wealthy and powerful, leading to significant legal and political repercussions.

One of the prominent aspects of data journalism is its ability to simplify complex information through visualisations. Infographics, interactive charts, and maps make data more accessible and engaging for readers. These visual aids help the audience grasp complex concepts easily and enable them to explore the data independently. Data journalism has also played a key role in democratising the news, making information more transparent and accessible to the general public. By presenting data-driven stories and visualisations, journalists empower the public to draw their own conclusions and form informed opinions on critical issues. Open-source data platforms, such as Data.gov and OpenDataSoft, have further facilitated access to valuable datasets for both journalists and the public.

According to Coddington (2015), the role of data journalism in news gathering has evolved significantly, reshaping traditional reporting practices and offering new opportunities to explore complex topics. Its potential to enhance investigative journalism, visualise data, and democratise news makes it a crucial aspect of modern journalism. However, journalists must



continue navigating the ethical and practical challenges of working with data. As data journalism advances, it is essential to adapt and embrace this evolving landscape to deliver accurate, comprehensive, and impactful news stories.

Meyer (2017) noted that data journalism has significantly impacted media organisations in several ways:

- **Enhanced storytelling:** Data-driven storytelling allows journalists to present information in a visually appealing and easily digestible format. Infographics, charts, and interactive graphics help readers grasp complex issues more effectively.
- **Greater accountability:** Data journalism allows journalists to hold institutions and public figures accountable by uncovering patterns and trends that may go unnoticed. It enables investigative reporting by detecting connections and correlations within datasets, leading to potential exposés.
- **Audience Engagement:** Data journalism allows media organisations to engage with their audience actively. Interactive visualisations and data-driven content invite readers to explore and interact with the information, fostering a more immersive and engaging experience.

According to Singer (2011), one of the significant benefits of data journalism is its role in democratising information. By presenting facts and figures through data journalism, the public can analyse and interpret the information independently, forming their own informed opinions. This transparency helps bridge the gap between media organisations and their audience, fostering a more inclusive and participatory democracy. Data journalism allows readers to fact-check claims made by journalists and public figures. It provides a platform for the public to scrutinise data sources and methodologies and potentially expose inaccuracies or biases.

Singer (2011) further noted that data journalism also emphasises the importance of transparency in journalism. Journalists are expected to analyse the credibility of their data sources critically. Verifying the accuracy and integrity of data ensures that the journalistic process remains reliable and trustworthy. Ethical data journalism necessitates informed consent, respect for privacy, and responsible handling of sensitive information. Journalists must prioritise protecting individuals' rights while still delivering impactful stories.

While data journalism offers great potential, it also presents challenges and ethical considerations. Journalists must ensure the accuracy and reliability of the data they use and present it responsibly. Furthermore, questions concerning data privacy, anonymity, and potential biases within datasets must be addressed to maintain journalistic integrity. In conclusion, data journalism has revolutionised news writing by introducing quantitative analysis, visualisation, and enhanced storytelling techniques. Its impact on media organisations elevates accountability, fosters audience engagement, and redefines the journalistic landscape. Moreover, data journalism contributes to the democratisation of information by empowering the public and emphasising the need for transparency in reporting. As technology advances, the role of data journalism will continue to evolve, shaping the future of journalism worldwide.



Challenges and Opportunities in Data Journalism

Data journalism has emerged as a powerful tool in investigative reporting in recent years, creating new opportunities and challenges for media organisations worldwide. With the increasing availability and accessibility of data, journalists are now able to analyse, interpret, and present complex information in a more compelling manner. One of the critical challenges in data journalism is obtaining reliable and high-quality data. Journalists face obstacles in accessing relevant datasets, as some organisations may withhold information or provide limited access. Additionally, the sheer volume of data can be overwhelming, requiring strong analytical skills to identify trends, patterns, and correlations. According to Tandoc (2019), journalists often face technical difficulties and time constraints when collecting, cleaning, and processing large datasets.

As data journalism relies on accessing vast amounts of data, concerns over privacy and security arise. Journalists must be ethically responsible and ensure they handle personal and sensitive data carefully. Journalists must navigate a delicate balance between public interest and individual privacy. Lavelle (2017) highlights these challenges, mentioning the need for clear policies and guidelines to address data privacy in journalism. He noted that journalists must understand statistics well to effectively analyse and interpret data. Misinterpreting statistics or presenting them in a misleading manner can harm the credibility of data-driven journalism. Thematic frameworks, such as understanding sample sizes, statistical significance, and confidence intervals, help journalists accurately convey information. D'Alessio and Ferri (2020) emphasise the importance of statistical literacy among journalists and suggest the inclusion of data-focused training programs in journalism education.

Data journalism offers a fresh approach to investigative reporting, allowing journalists to unearth hidden patterns, uncover corruption, and expose societal issues. By combining traditional reporting skills with data analysis, journalists can provide evidence-driven storytelling, making complex issues more accessible to the public. An excellent example of this is The Guardian's "The Counted" project, which compiled data on police killings in the United States (Eaton, 2016). This project brought attention to a critical social issue and sparked public debate.

Data visualisation is a powerful tool that enables journalists to communicate complex information more effectively. Readers can quickly grasp overarching trends and patterns by transforming datasets into visually engaging graphics. Interactive charts, maps, and infographics enhance user engagement, allowing readers to explore and interact with the data. The New York Times "Upshot" section regularly employs these techniques to convey intricate stories in a digestible format (Bui, 2019).

Data journalism fosters collaboration between journalists, researchers, and experts from different fields. This multidisciplinary approach leads to more comprehensive and insightful reporting. Open-source platforms like GitHub enable journalists to share and collaborate on datasets, methodologies, and code. This collaborative environment improves the quality of data journalism and facilitates knowledge exchange and innovation (Gray, 2012).

While data journalism presents various challenges, the opportunities it provides for investigative reporting, visual storytelling, and collaboration cannot be ignored. Journalists must address data collection, privacy, and statistical literacy issues to ensure their work's



credibility and ethicality. By seizing the opportunities and facing the challenges head-on, media organisations can harness the full potential of data journalism to inform, engage, and empower their audiences.

THEORETICAL FRAMEWORK

This study is anchored on the uses and gratification theory. This theory suggests that individuals actively seek out and consume media to satisfy specific needs and desires. When applied to data journalism, this theory offers a lens through which to understand the dynamic interplay between audience preferences, technological advancements, and journalistic practices.

In the realm of data journalism, the theory implies that audiences are drawn to data-driven news content because it gratifies various needs. For instance, individuals may engage with data journalism for informational gratification, seeking in-depth analysis and insights backed by empirical evidence. Data-driven stories can provide a deeper understanding of complex issues, thereby fulfilling the cognitive need for knowledge acquisition.

Moreover, data journalism's changing role aligns with the theory's assertion that media consumption is an active and purposeful behaviour. As data journalism evolves, incorporating interactive visualisations, interactive databases, and multimedia elements, audiences are empowered to actively engage with the content, aligning with the theory's emphasis on the active role of media users.

The theory also highlights the social and psychological dimensions of media consumption. Data journalism, with its ability to contextualise stories and provide evidence-based reporting, can fulfil the social need for discussion and interaction. Audiences can share, discuss, and debate findings, fostering a sense of community around data-driven narratives.

However, the relationship between the theory and data journalism is not unidirectional. Data journalism's changing role is also influencing how media is consumed. The theory suggests that audiences are more likely to engage with content that aligns with their preferences and needs. As data journalism continues to adapt and refine its techniques, it can tailor content to match the gratification needs of its audience better, ultimately shaping the way news is presented and consumed. The Uses and Gratifications Theory provides a valuable framework for understanding the relationship between data journalism, its evolving role in news gathering and writing, and audience engagement. By acknowledging the active and purposeful nature of media consumption, this theory underscores the reciprocal influence between data journalism practices and audience preferences, shedding light on how data journalism is transforming the landscape of news communication.



METHODOLOGY

The secondary method of data collection was adopted for this study. This method refers to the process of gathering information or data that has been previously collected, recorded, or published by other researchers, organisations or sources. In this approach, the researchers do not directly collect new data themselves; rather, they analyse and interpret existing data to draw insights, make comparisons, or support their own research objectives. Secondary data can come from a variety of sources, such as research papers, reports, surveys, databases, historical records, or any other pre-existing data that are relevant to a study.

FINDINGS

Research Question 1: What are the roles of data journalism in news gathering and writing?

Data journalism plays a crucial role in news gathering and writing, revolutionising how stories are researched, reported, and presented. According to Gray (2012), data journalism enables journalists to sift through vast amounts of data to identify trends, correlations, and patterns that might not be immediately apparent. This process can lead to uncovering significant stories or insights that traditional reporting methods might miss. Journalists can use data to conduct in-depth investigations, exposing corruption, fraud, or systemic issues. By analysing datasets, they can substantiate their claims and provide a solid foundation for their investigative pieces.

Meyer (2017) noted that data-driven reporting allows for rigorous fact-checking and verification. Journalists can use data sources to confirm or refute statements, ensuring the accuracy and credibility of their stories. Data visualisation tools help turn complex datasets into easy-to-understand visuals, such as charts, graphs, maps, and infographics. These visual aids enhance reader comprehension and engagement, conveying information more effectively. Data-driven journalism can tailor news content to individual readers based on their preferences, location, or behaviours. This personalisation enhances reader engagement and loyalty. Journalists can use data to support their arguments and opinions, adding a layer of objectivity to their writing. This evidence-based approach strengthens the persuasive power of their narratives. Data journalism can track public figures' and institutions' promises, policies, or actions over time. By analysing data, journalists can hold those in power accountable for their statements and decisions.

Singer (2011) noted that data offers multiple angles for storytelling. Whether it's a health crisis, economic trends, or social issues, data can reveal various facets of a story, enabling journalists to explore different perspectives. Interactive data visualisations and exploratory tools encourage readers to engage actively with news stories. This interactivity increases user participation and understanding. In essence, data journalism empowers journalists to gather, analyse, and present innovative information that informs and engages the audience, upholds journalistic integrity, and contributes to a more informed and data-literate society.

Research Question 2: To what extent has data-driven storytelling influenced the credibility, engagement, and audience perception of news stories?

Data-driven storytelling has significantly influenced news stories' credibility, engagement, and audience perception, reshaping how information is presented and received. Data-driven



storytelling has bolstered the credibility of news stories by providing verifiable evidence and transparent sourcing. Data and statistics lend a higher degree of objectivity to narratives, making it easier for audiences to trust the information being presented. This evidence-based approach helps counter misinformation and strengthens the reputation of journalists as reliable sources of accurate information.

Coddington (2015), data-driven storytelling captivates audiences through visually compelling and interactive content. Infographics, interactive charts, and maps enhance understanding and make news stories more engaging. Audiences are more likely to spend time interacting with data-driven visuals, leading to prolonged engagement and a deeper connection to the story. Coddington (2015) further noted that data-driven storytelling has shifted audience perception by offering a more nuanced and comprehensive view of complex issues. By breaking down intricate subjects into digestible data points, audiences better understand the context and impact of news stories. This holistic perspective can lead to more informed opinions and a deeper appreciation for the intricacies of various topics.

The inclusion of data in news stories allows audiences to fact-check and verify information independently. This transparency empowers readers to assess the accuracy of claims made in the news, fostering a sense of active participation and critical thinking. News organisations that employ data-driven storytelling often demonstrate a commitment to openness and accountability. Data-driven storytelling empowers audiences to make informed decisions by providing comprehensive insights. When presented with data-supported arguments, readers can assess different viewpoints and draw their conclusions. This encourages a more discerning and thoughtful approach to news consumption.

According to Bradshaw (2019), compelling data visualisations and interactive elements have the potential to go viral on social media platforms. When audiences find data-driven content valuable, informative, or intriguing, they are more likely to share it with their networks, expanding the reach and impact of the news story. While data-driven storytelling offers numerous benefits, it also poses a challenge related to audience data literacy. Complex datasets and visualisations require a certain level of understanding to interpret accurately. News organisations must balance sophisticated data presentation with user-friendly explanations to ensure the audience can fully grasp the intended message.

Research Question 3: What are the challenges and ethical considerations faced by journalists in integrating data-driven content into their reporting?

Integrating data-driven content into reporting presents journalists with a range of challenges and ethical considerations. Ensuring the accuracy and reliability of the data used is a significant challenge. Inaccurate or biased data can lead to misleading or false conclusions, undermining the credibility of the reporting.

Interpreting complex datasets requires a certain level of expertise. Journalists may struggle to analyse and present data accurately, leading to misrepresentations or misinterpretations. Data journalism demands proficiency in data analysis tools and visualisation software. Not all journalists possess these technical skills, making it a challenge to work effectively with data. Pritchard (2020) noted that data-driven reporting can be time-consuming and resource-intensive. Gathering, cleaning, and analysing data require significant effort, potentially impacting the speed of news production. Working with sensitive data may raise privacy



concerns. Journalists must be cautious not to expose private information while using data to illustrate a story.

Journalists must be transparent about their data sources, methodologies, and any assumptions made during analysis. This transparency is essential for maintaining the trust of the audience. Data can inadvertently reinforce existing biases or present a skewed representation of reality. Journalists must be vigilant in recognising and addressing any biases that may arise from the data. When using data that involves individuals, journalists must respect privacy rights and obtain appropriate consent before using personal information in their reporting.

In essence, integrating data-driven content into reporting offers great potential for enhancing storytelling and audience understanding. However, journalists must navigate challenges related to data quality, interpretation, technical skills, and resources while also upholding ethical principles surrounding transparency, bias, privacy, and accountability. Striking a balance between these considerations is essential for responsible and impactful data-driven journalism.

CONCLUSION

Data journalism has emerged as a transformative force in news gathering and writing in the 21st century. With advancements in technology and the increasing availability of data, journalists have begun harnessing their power to uncover meaningful stories and provide accurate and insightful reporting.

In the past, journalists relied heavily on anecdotal evidence and personal narratives to shape their stories. However, data journalism has brought a new dimension to the field by using data as evidence and employing various tools and techniques to analyse and visualise information. This approach enhances the credibility of news stories and enables journalists to uncover patterns, trends, and insights that may have otherwise gone unnoticed.

The changing role of data journalism can be observed in its impact on newsgathering. Journalists now have access to vast amounts of data from various sources, such as government databases, public records, and online platforms. They can utilise this abundance of information to investigate issues, verify claims, and provide context to complex stories. Data journalism allows for a more evidence-based approach, uncovering facts and presenting them in a clear and compelling manner.

Furthermore, data journalism has transformed the way news is written and communicated. Visualisations, such as charts, graphs, and maps, have become powerful tools for journalists to present data-driven stories in a digestible and engaging format. These visuals can help readers comprehend and interpret complex information more easily. Additionally, interactive elements and multimedia components have allowed for a more immersive and interactive reading experience.

In conclusion, data journalism has revolutionised the field of news gathering and writing in the 21st century. Its impact is evident in the growing reliance on data as evidence, the availability of vast amounts of information for investigation, and the use of engaging visualisations to present stories. As technology advances and data becomes even more accessible, the role of data journalism is expected to evolve, shaping the way news is reported and consumed further.



RECOMMENDATION

Based on the findings of this study, the following recommendations were made;

- i. Journalists should prioritise ongoing training and skill development in data analysis, visualisation tools, and storytelling techniques. This will empower them to work with data effectively, create engaging visualisations, and craft compelling narratives that resonate with modern audiences.
- ii. Journalists and media professionals should embrace collaboration between data journalists, subject matter experts, and technologists. An interdisciplinary approach can lead to more comprehensive and accurate data-driven stories, enhancing the depth and credibility of reporting.
- iii. Journalists should establish clear ethical guidelines for data-driven journalism, emphasising transparency in data sourcing, methodology, and visualisation choices. Adherence to these guidelines will build trust with the audience and ensure responsible and unbiased data reporting.

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