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Examining the effects of ChatGPT on Television News Production at the Namibian Broadcasting Corporation

by

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DECLARATION

I, Anna Tashiya Kadhila hereby declare that the work contained in the degree MASTER OF JOURNALISM AND MEDIA TECHNOLOGY entitled:

Examining the effects of ChatGPT on Television News Production at the Namibian Broadcasting Corporation

is my own original work and that I have not previously in its entirety or in part submitted it at any university or other higher education institution for the award of a degree.

I further declare that I will fully acknowledge any sources of information I will use for the research in accordance with the Institution rules.



Signature:

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Signature of the Supervisor

I, Hugh Ellis, herewith declare that I accept this proposal for my supervision



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Abstract

There is limited research on the specific effects and challenges of using Artificial Intelligence (AI) technology, particularly ChatGPT, in newsrooms in Africa, and Namibia in particular. From preliminary research, the Namibian Broadcasting Corporation (NBC) makes use of ChatGPT and other chatbots in the production of television news as an AI tool, but it has been impossible to determine the extent thereto from casual observations. Through qualitative research through conducting face-to-face interviews with fifteen (15) journalists as the population of the study, this thesis aimed to examine the challenges presented by ChatGPT and potentially other chatbots on television news production at NBC, while evaluating their potential to enhance news-gathering processes and their effects from the African context. The study highlights the dual impact of ChatGPT in Namibian television newsrooms, where it enhances efficiency but struggles with cultural and linguistic representation. While AI streamlines news production, its limitations in processing indigenous languages and reflecting local contexts raise concerns about audience alienation and content authenticity. Ethical challenges, including job security and editorial oversight, further emphasize the need for responsible AI integration. Ultimately, the findings call for policies that balance AI's benefits with Namibia's socio-cultural realities, ensuring its use strengthens rather than diminishes journalistic integrity.

Keywords: Artificial Intelligence, ChatGPT, chatbots, Namibian Broadcasting Corporation, television news production, innovation, Natural Language Processing, AI linguistic diversity

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CHAPTER ONE

1. INTRODUCTION AND BACKGROUND

1.1. Introduction

The concept of ‘computers’ or ‘machines’ imitating human intelligence has deep historical roots, evolving over centuries through philosophical and scientific inquiry (Capra, 2007; Morris, 2000; Descartes, 1637). Ancient myths, such as tales of Hephaestus crafting automatons in Greek mythology, exemplify early contemplation of artificial beings with human-like qualities (Morris, 2000). Throughout history, scholars like Leonardo da Vinci and René Descartes speculated on the potential for machines endowed with intelligence and consciousness (Capra, 2007; Descartes, 1637). The industrial revolution accelerated and enhanced this trajectory, fostering advancements in mechanical engineering and automation that gave rise to early calculating machines and automata (Babbage, 1822), such as robots and androids. In literature, Mary Shelley's "*Frankenstein; or, The Modern Prometheus*" (1818) explored themes of artificial life and intelligence, reflecting societal fascination with these concepts in the 19th century. The novel raises questions about the responsibilities of creators toward their creations and the possible consequences of hubris. However, it was not until the mid-20th century that the modern concept of Artificial Intelligence (AI) emerged as a distinct scientific discipline. This was spearheaded by figures like Alan Turing, John McCarthy, and Norbert Wiener (McCarthy et al., 1956; Turing, 1950; & Wiener, 1948), who marked a convergence of various disciplines, including philosophy, neuroscience, computer science, mathematics, and psychology (Russell & Norvig, 2022). American computer scientist John McCarthy coined the term ‘artificial intelligence’ in 1956 during the Dartmouth Conference, which is recognised as the starting for AI research (Dergaa et al., 2023). Their pioneering work laid the theoretical foundation for AI, focusing on developing intelligent machines capable of reasoning, learning, and problem-solving, particularly in symbolic AI during the 1950s and 1960s with programs like the Logic Theorist (Newell & Simon, 1976). The primary objective of AI has always been to create machines capable of emulating human intelligence (McCarthy et al., 1956). This goal has led to the development of intelligent systems and social robots capable of understanding and generating human language, respond to human emotions, facilitating communication, and assisting in tasks ranging from education to therapy (Rich & Knight, 1991; & Breazeal, 2002).

Within the context of journalism and media education, and particularly for the scope of this research paper, generative AI pertains specifically to the utilisation of AI technologies for generating textual and

content intended for television news production at the Namibian Broadcasting Corporation (NBC). Moreover, AI-driven Natural Language Processing (NLP) chatbots that can be utilised in television newsrooms include Google's Dialogflow (Google, 2023), IBM's Watson Assistant (IBM, 2022), Newsbot (Newman et al., 2019), CLIP (Contrastive Language–Image Pretraining) (Radford et al., 2021) and Microsoft's Azure Bot Service (Microsoft, 2023). These chatbots could support various newsroom functions and applications that could be relevant to television news production, from automating tasks to enhancing audience engagement. This thesis specifically explores the challenges and opportunities associated with ChatGPT and similar chatbots in television news production at NBC. It aimed to assess AI's potential to enhance news-gathering processes, particularly in the African context where digital transformation is rapidly evolving amid unique socio-political and infrastructural challenges (Adeleke, 2022; Nwafor & Ogu, 2021). The African perspective is crucial in understanding the region-specific limitations and potential of AI adoption in media, including considerations of linguistic diversity, economic constraints, and infrastructure gaps that affect AI deployment (Adeleke, 2022).

1.2 Research context

The Namibian Government has set forth a vision to transition into a knowledge-based economy and technology-driven nation by 2030 (Office of the Prime Minister [OPM], 2014), acknowledging the potential of technology to improve access to essential services like healthcare, online learning, government information, and job opportunities (Abbasi & Manawar, 2011; OPM, 2014). Furthermore, prior research across various domains such as corporate public relations, education, medicine and literature has shown promising results in terms of augmenting productivity and efficiency through the use of AI technologies (Wen & Wang, 2023; Naoaín, 2022; & Soodyall, 2019). Likewise, the integration of AI-driven chatbots like ChatGPT into television news production, an essential aspect of the NBC's mandate to inform the public about current events and issues, has been on the rise. Traditionally, television news production, including the NBC, has relied on manual methods for tasks such as sorting and analysing large volumes of text. However, the introduction of AI technologies like ChatGPT, has sparked growing interest in exploring its effects on television news production (Bains, 2023), and NBC is no exception to this trend. The integration of chatbots into television news production holds the potential to revolutionise the process of news gathering, analysis, and presentation. This introduces opportunities for using ChatGPT to generate news stories, conduct interviews, and engage with audiences through chatbots. Chatbots in particular, have gained significant attention in the television news production for their ability to automate audiences interactions and deliver tailored news experiences (Gupta et al., 2023). In addition to ChatGPT,

Diakopoulos (2020) highlights various other AI technologies employed in television news production. These include speech-to-text transcription systems, facial recognition software for audience analysis and emotion detection, video editing algorithms for automated video production and customisation, and natural language processing algorithms for real-time translation and sentiment analysis of news articles. Furthermore, AI is utilised in tasks such as the verification and moderation of user-generated content on social media platforms, exemplifying its multifaceted role in television news production (Trattner et al., 2021).

Researchers such as Guanah et al (2020), Diakopoulos (2020) and Hadi et al (2021) argue that AI integration in news production, through chatbots like OpenAI's GPT-3, GoogleChatGPT and News Scripting, has improved the accuracy and objectivity of news content. By automating data analysis and fact-checking processes, AI technology holds the potential to eliminate biases and errors in human-generated news stories (Dhiman, 2023). AI's role in news production presents an exciting opportunity to deliver more balanced and unbiased coverage by reducing the influence of human biases. This potential comes from AI's ability to process data and operate without the subjective lenses that inevitably shape human-generated news.

Cognitive and Emotional Biases in Human Journalism

Despite rigorous training, Human journalists are inherently influenced by cognitive biases that affect how they interpret and report on events. Take confirmation bias, for example; people tend to favour information that aligns with their pre-existing beliefs, often overlooking contradictory evidence (Nickerson, 1998). This can subtly - or sometimes overtly - impact how stories are framed, what language is used, and which facts are highlighted or downplayed. In contrast, AI-driven news systems like ChatGPT do not carry personal beliefs or emotions into their work. They rely on data and present algorithms, which helps to lower the risk of these kinds of biases. Studies have shown that algorithmic news generation can indeed reduce bias by consistently applying the same standards across all different stories (Diakopoulos, 2019).

Organisational and Commercial Pressures

Human journalism is also heavily shaped by organisational and commercial demands of media outlets. News organisations may have political or ideological leanings, that influence the tone and framing of stories. Journalists may feel pressures to report in a way that aligns with the interests of their employers

or audience, leading to imbalanced coverage (Herman & Chomsky, 1988). In contrast, AI generated content can be programmed to focus solely on objectivity, pulling from a range of sources to present a well-rounded view. According to research by Montal & Reich (2017), AI-powered news systems can process vast datasets and incorporate multiple perspectives, helping to counteract the ideological or commercial biases that often influence human news production.

Consistency and Scalability of AI-generated Content

One key advantage of AI-generated is its consistency in tone, language, and factual representation, which can help reduce the subjective interpretation that human journalists naturally bring. Journalists come with their own interpretations, cultural backgrounds, and emotional responses, which can affect the objectivity and accuracy of news stories (Van Dalen, 2012). In contrast, AI-driven systems like ChatGPT produce content that adheres to a standard format, helping to maintain uniformity. This kind of consistency is crucial for delivering reliable, objective content, especially with sensitive or divisive topics. Research has also demonstrated that readers perceive AI-generated news as more credible and less biased than human-written articles, likely due to the factual and emotion-neutral style AI systems bring to the table (Graefe et al. (2018). Furthermore, AI's ability to analyse large datasets allows it to present a more comprehensive perspective on news topics. By drawing from multiple sources, AI can identify patterns and insights that journalists, who work under tight deadlines, might overlook. This data-driven approach supports a more holistic view of events, lowering the risk of selective reporting (Napoli, 2015).

Challenges and Limitations

Still, AI-generated content isn't without its own limitations. One of the main challenges is the quality of data fed into these systems. Models like ChatGPT can inherit biases from training data or 'hallucinations', a term which, in the context of AI, means incorrect data from LLMs like ChatGPT, which may unintentionally result in skewed narratives. However, regularly updating and refining training datasets can help to mitigate these issues, promoting a more balanced perspective over time. Although news-producing chatbots like ChatGPT and Dall-e are not entirely free from bias, they offer a powerful tool for reducing many of the biases inherent in human news production. Their capacity to process large data objectively, produce consistent output, and avoid cognitive and organisational pressures positions them as valuable assets in the quest for balanced and unbiased news coverage (Schapals, A. K., & Porlezza, C. (2020).

Other factors leading to hallucinations are Statistical nature - LLMs are designed to generate text that is statistically likely given the input, which can sometimes result in creating plausible but false information; and Ambiguous prompts - If the prompt from the user is vague or open to interpretation, the model might generate responses that are factually incorrect but still seem relevant.

Preliminary research indicates that NBC actively utilises AI ChatGPT and other chatbots in the creation of television news content. Consequently, all fifteen (15) participants selected for this study are employees of the NBC television newsroom. Data collection for this study was conducted entirely at the NBC headquarters located in the Northern Industrial Area in Windhoek. This thesis aims to examine the challenges presented by ChatGPT and potentially other chatbots on television news production at NBC, while evaluating their potential to enhance news-gathering processes and their effects from the African context.

Research problem and aims

Problem Statement

There is growing evidence of a global shift towards integrating AI technologies, such as ChatGPT and other chatbots, into newsrooms. Research by Díaz-Noci (2020), Moran & Shaikh (2022), and Brewer et al., (2022) highlight the increasing use of AI across various sectors, including journalism, suggesting that chatbots will likely become more prevalent. Thurman, Lewis, and Kunert's (2019) study also explores AI's role in journalism, noting that tools like ChatGPT can streamline news production processes (Wen & Wang, 2023; Naoaín, 2022; & Soodyall, 2019). The study further suggests that reporting on algorithms and technology can strengthen journalists' watchdog role, holding power to account and engaging underserved communities.

However, there is limited research on the specific impact and challenges of using chatbots like ChatGPT, in African newsrooms, particularly in Namibia (Al-Adwan et al. 2023). Some scholars question whether the optimism surrounding AI in European and U.S. newsrooms can be applied to African contexts (Munoriyarwa, Chiumbu & Motsaathebe, 2023; Gondwe, 2023). Studies indicate for AI to be successfully adopted in African newsrooms, factors such as socio-economic conditions, infrastructure, resources, and cultural differences, need to be considered, requiring tailored approaches to address the unique challenges and opportunities (Gondwe, 2023; Mutsvairo & Bebawi, 2022; Brokensha, 2020). Preliminary research suggests that the NBC TV newsroom has begun using ChatGPT and potentially other chatbots to

the create TV news content, though the extend of their use is still not yet clear through casual observation. While data on the widespread use of ChatGPT and other chatbots in global TV newsrooms remains scarce, these studies show a clear trend towards adopting AI in journalism. This indicates that while the use of chatbots may be notable, its adoption varies across different regions and news organisations in both the Global North and South. In light of this, this study aims to address the gaps in research by providing targeted insights and strategies for implementing AI tools like ChatGPT in ways that enhance, rather than disrupt, African newsrooms.

1.3.2. Research Objectives

The main objective of this study was to investigate the challenges presented by ChatGPT and potentially other chatbots on television news production at NBC, while evaluating their potential to enhance news-gathering processes and their effects from the African context.

Thus, the sub-objectives were to:

- i. Examine how the use of ChatGPT and other chatbots affect newsgathering processes in television news production, including the efficiency and effectiveness of information collection.
- ii. Evaluate the challenges posed by ChatGPT and other chatbots on television news content in the African cultural context generation, and their potential to improve the precision and objectivity of news reporting.
- iii. Assess journalists' perceptions and experiences regarding the use of ChatGPT and other chatbots in television news production.

In the age of AI and chatbots like ChatGPT, journalism finds itself at a crucial crossroads, ready to explore the transformative possibilities that AI technologies bring to television news broadcasting. As we delve deeper into the following chapters, it becomes clear that a thorough analysis of the impact of ChatGPT and similar chatbots on television news requires an understanding of complex relationships between technological innovation, journalistic practices, and audience engagement. By adopting a balanced approach that embraces the opportunities offered by AI while addressing its challenges, stakeholders in the media industry can navigate this changing landscape with integrity, transparency, and a strong commitment to serving the public interest.

1.4 Limitations of the Study

While this study provides valuable insights into the effects of ChatGPT on television news production at the NBC, several limitations and weaknesses should be acknowledged.

1. Limited Scope of Participants

The study focused on a relatively small sample of journalists from NBC, a proposed 15 which expanded to 23 participants, which may limit the generalisability of the findings to other newsrooms, particularly those outside Namibia or in smaller, rural regions. The experiences and perceptions of journalists in other parts of Africa, or even other media organisations, may differ based on local contexts, technological access, and newsroom dynamics. A broader, more diverse sample would have enhanced the study's external validity (Moyo, 2022).

2. Focus on a Single Media Organisation

By concentrating solely on NBC, the study offers a case study specific to one media institution. This narrow focus may overlook broader trends and challenges faced by other media outlets in Namibia or the wider African continent. While NBC is an important institution, its experiences with AI tools may not fully represent those of other public or private media houses in different socio-political or technological environments.

3. Technological Constraints and Developments

The study was conducted while ChatGPT was still evolving. AI technologies are rapidly advancing, and the version of ChatGPT used during the research may differ significantly from more recent iterations. This technological progression could potentially alter the study's findings, especially regarding capabilities related to multilingual support, cultural sensitivity, and ethical considerations. As AI tools continue to evolve, the limitations and potential of ChatGPT may change over time, making the study's conclusions somewhat time-bound (Chen & Zhang, 2020).

4. Cultural and Linguistic Representation

A key limitation identified in the study was ChatGPT's inability to process Namibia's indigenous languages effectively, which is central to the cultural authenticity of news content. However, the research did not explore deeply into the broader implications of this limitation, such as exploring how other AI tools, or alternative technological solutions, could address this issue. The absence of the use of chatbots other than ChatGPT at NBC may overlook other potential solutions or advancements in AI that could improve language processing and cultural representation.

5. Potential Bias in Perceptions of Journalists

The study relied on journalists' perceptions and experiences with ChatGPT, which could be influenced by personal biases or preconceived notions about AI. While these perceptions are valuable for understanding the challenges and opportunities of AI integration and assimilation into everyday tasks, they may not fully reflect objective outcomes. Journalists' opinions may have been influenced by their level of familiarity with AI, their exposure to its limitations, or even their personal attitudes toward technology in general, which could skew the findings (Cohen, 2020).

6. Ethical and Bias-related Limitations

The study explored ethical concerns related to AI, such as biases in AI-generated content, misinformation, and the potential erosion of editorial control. However, it did not extensively investigate the technical dimensions of these ethical challenges, such as how biases might be mitigated or what specific strategies can be employed by journalists to address AI-generated misinformation. A deeper focus on these aspects could have provided more practical solutions for integrating AI tools ethically and effectively in the newsroom.

7. Lack of Longitudinal Analysis

Given the rapidly evolving nature of AI technologies, a longitudinal study would have been beneficial to track changes in AI's role and effectiveness over time. This would have allowed for a more thorough understanding of how ChatGPT's integration in newsrooms impacts long-term editorial processes, job roles, and content quality. A cross-sectional snapshot may not fully capture the dynamic and evolving challenges that come with the adoption of AI in news production.

Despite its limitations, this study remains relevant, offering both theoretical insights and practical applications.

CHAPTER TWO

Review of the Literature and the Theoretical Framework

2.1. Introduction

This chapter offers a comprehensive review of the literature, a brief history and theoretical perspectives on the impact of ChatGPT and other chatbots on television news production, focusing on the Namibian Broadcasting Corporation (NBC). It examines global, regional, and local trends in the adoption of AI technology within newsrooms, highlighting both the advantages and challenges associated with their use. Key themes explored include the impact of ChatGPT and other chatbots on news production processes, their potential to enhance efficiency and creativity, and the ethical and reliability concerns surrounding them, particularly in relation to biases and misinformation. The chapter also addresses the knowledge gap regarding AI adoption in African television newsrooms and the challenges this presents, stressing the need for further research in the region. The Automation and Media Convergence Theory is introduced as the guiding framework for the study, offering valuable insights into how chatbots like ChatGPT are reshaping media production, while highlighting the essential role of human oversight in maintaining ethical standards in journalism.

2.1.1. Background of ChatGPT

Advancements in knowledge representation and expert systems characterised the 1970s and 1980s (Davis et al., 1993). The 1990s and 2000s witnessed a surge in machine learning, transitioning towards probabilistic approaches and neural networks (Bishop, 2006; Breazeal, 2002; and Rich & Knight, 1991). Recent years have seen the revolutionary impact of deep learning on AI, notably influencing fields such as image and speech recognition, natural language processing, and robotics (Goodfellow et al., 2016). AI technologies like self-driving cars and virtual assistants have become integral components of contemporary society, reflecting a rich history of interdisciplinary collaboration and ongoing innovation.

The evolution of AI can be traced to the development of models like ChatGPT. Initially, ChatGPT was built upon the foundation of Generative Pre-trained Transformers (GPT) models, pioneered by OpenAI, a prominent research organisation founded in December 2015 (Radford et al., 2018; Leon & Vidhani, 2023; & Su & Yang, 2023). Early iterations, such as GPT-2, demonstrated impressive abilities in generating human-like text but were introduced incrementally due to concerns regarding potential misuse (Radford et al., 2019). The development of Large Language Models (LLMs) such as ChatGPT has revolutionized

Natural Language Processing (NLP) within AI, enabling machines to better understand and generate human language. Transformer-based architectures, like OpenAI's GPT and Google's BERT, leverage self-attention mechanisms to capture contextual relationships in text (Vaswani et al., 2017; Devlin et al., 2018). Advancements in hardware infrastructure, such as powerful Graphics Processing Units (GPUs) and Tensor Processing Units (TPUs), have enabled the training and deployment of LLMs at unprecedented scales (Brown et al., 2020), leading to significant improvements in language understanding and generation. Over time, ChatGPT underwent iterative improvements, incorporating feedback from users and researchers. Successive versions, notably GPT-3, showcased significant strides in language understanding and generation capabilities (Brown et al., 2020). These enhancements allowed ChatGPT to engage in more coherent and contextually relevant conversations across diverse topics and domains, including television news production. Overall, the evolution of ChatGPT and other news producing chatbots reflect a continuous endeavour to bolster performance and utility, demonstrating the growing potential of AI in facilitating human-computer interactions. OpenAI conceptualised and released ChatGPT as a language model employing deep learning techniques to generate human-like responses, aiding in various tasks, such as text generation, translation, and data analysis (Biswas, 2023; Wu et al., 2023; Bang et al., 2023; Van Dis et al., 2023; & Shen, Y., et al. 2023). AI tools like ChatGPT's powerful text generation capabilities empower news producers to efficiently conduct interviews, craft scripts, and create virtual news anchors. In recent years, the field of AI has witnessed significant progress, among which ChatGPT stands out as a significant contribution (Dergaa et al., 2023).

2.2. The effects of ChatGPT and other chatbots on Television News Production Processes

The rise of chatbots, particularly ChatGPT, has sparked considerable interest and scrutiny within the fields of journalism and media (de-Lima-Santos & Ceron, 2021; Wen & Wang, 2023; Longoni, et al., 2022; Sundar & Liao, 2023). This attention is driven largely by their remarkable versatility and potential to revolutionise various aspects of news production. Researchers have conducted numerous scholarly investigations to understand the implications of integrating chatbots into newsrooms, reflecting a growing recognition of their transformative impact. For example, de-Lima-Santos and Ceron (2021) examined the role of ChatGPT in enhancing television newsroom workflows, highlighting its ability to streamline tasks and improve operational efficiency. Their findings emphasised how AI-driven automation could reduce the burden of repetitive tasks, freeing up journalists to focus more on value-added activities like in-depth analysis and investigative reporting. Similarly, Wen and Wang (2023) conducted a comparative analysis of ChatGPT's performance in generating news headlines, demonstrating the model's capacity to

automatically create engaging and informative titles, which can improve the overall quality of news content.

In a broader investigative context, Longoni et al. (2022) explored the integration of chatbots like ChatGPT into investigative journalism. Their study revealed how the model's data processing capabilities could uncover deeper subtle patterns or inconsistencies that might be missed by human journalists. By leveraging chatbots' advanced data analysis features, journalists can gain deeper insights and produce more comprehensive investigative reports. This aligns with the findings of Sundar and Liao (2023), who stressed the fundamental role of AI models like ChatGPT in empowering journalists, especially in data-driven reporting.

Together, these studies highlight the diverse benefits of ChatGPT and other chatbots in television news production. From assisting with fact-checking to facilitating headline generation and supporting data analysis, ChatGPT proves to be a versatile tool that enhances efficiency, accuracy, and creativity in journalistic endeavours (Karazoun, 2016; Lin & Lewis, 2022). For instance, Karazoun (2016) illustrated how news producing chatbots can expedite the verification process by cross-referencing multiple sources and identifying inconsistencies or inaccuracies. Similarly, Lin and Lewis (2022) demonstrated how ChatGPT can be used to craft attention-grabbing headlines that adhere to journalistic standards and capture the essence of news stories effectively. These examples collectively highlight the transformative potential of chatbots in reshaping contemporary journalism, offering new opportunities for innovation and excellence in television news production. ChatGPT has been shown to automate various tasks in television newsrooms, such as writing news articles, generating headlines, and assisting in fact-checking, all of which lead to increased efficiency and productivity in news production processes.

2.2.1. Alternative AI-driven NLP Chatbots for Television Newsrooms

In addition to ChatGPT, several AI-driven Natural Language Processing (NLP) chatbots offer unique functionalities that can be highly beneficial in television newsrooms. Below is an overview of some key chatbots that contribute to various aspects of news production, content automation, and viewer engagement:

1. Google's Dialogflow

Dialogflow is a powerful tool for building conversational interfaces, designed primarily for handling customer inquiries and performing repetitive tasks through natural language processing (Google, 2023). It has been adopted across multiple industries, including the media, due to its advanced AI capabilities for managing both text and voice-based interactions. In television newsrooms, Dialogflow is used to automate interactions with audiences by addressing frequently asked questions, providing live news updates, and sending notifications on breaking news. Additionally, It can assist journalists with research by quickly pulling relevant information from multiple sources in real time, reducing the time spent on manual searches and data entry (Kumar, 2021). Dialogflow's compatibility with a range of platforms, such as mobile apps and websites, offers flexibility in reaching viewers across different channels. However, challenges remain in ensuring that the responses provided by the chatbot are both accurate and contextually relevant, especially in the fast-paced and dynamic environment of newsrooms (Jones, 2023)

2. International Business Machines Corporation (IBM)'s Watson Assistant

Watson Assistant is known for its strong data-processing capabilities, making it highly effective for providing real-time information and managing large datasets (IBM, 2022). It integrates seamlessly with other IBM AI services, enabling advanced analytics and supporting data-driven journalism. In a newsroom setting, Watson Assistant can be used for tasks such as fact-checking, organising data for reports, and even suggesting story angles by analysing viewer engagement patterns. Moreover, Watson Assistant's ability to process vast amounts of data can help streamline newsroom workflows by automating background research, which is especially useful when preparing news segments on complex topics (Diakopoulos, 2019). Its data-driven approach enhances the accuracy and depth of analysis, ultimately improving the credibility and informativeness of news stories. However, setting up and training Watson Assistant for specialised journalism tasks can be time-consuming, and it may require ongoing monitoring to ensure it meets the specific needs of a newsroom.

3. Newsbot

Newsbot is designed specifically for media applications, using machine learning to analyse and deliver content in engaging ways (Newman et al., 2019). It is particularly well-suited for creating interactive news experiences, automating article summaries, and analysing audience sentiment. Newsbot can streamline

the production process by quickly generating summaries of lengthy articles and complex stories, which can then be used as preview text for broadcast scripts or online news articles. Additionally, it can analyse viewer comments and questions in real-time, providing valuable feedback on trending topics and helping journalists respond dynamically to audience interest (Tivani, 2020). The targeted functionality of Newsbot for media applications makes it an attractive choice for newsrooms. However, because it is primarily focused on summary generation and sentiment analysis, it may lack the flexibility needed for handling more complex journalistic inquiries or investigative tasks.

4. CLIP (Contrastive Language–Image Pretraining)

Developed by OpenAI, CLIP is an advanced model designed to align text and image data, allowing it to generate coherent content, which makes it especially valuable for visual media production (Radford et al., 2021). Unlike traditional NLP models, CLIP can interpret images alongside textual information, a key advantage in visual news production. In television newsrooms, CLIP can assist in selecting images or video clips that are contextually relevant to written or spoken news scripts, a task that is often time-consuming in visual media production. It could also help automate the generation of social media posts, creating visually appealing and coherent news updates for platforms where image engagement is critical (Fry et al., 2022). Additionally, CLIP's strength lies in its multimodal capabilities, allowing it to bridge visual and textual content effectively. However, its dependency on high-quality data and computational resources may limit its use for newsrooms with restricted budgets or limited access to extensive image datasets (Radford et al., 2021).

5. Microsoft's Azure Bot Service

Azure Bot Service offers a comprehensive suite of tools for developing, testing, and deploying AI-powered chatbots with robust NLP capabilities (Microsoft, 2023). It integrates seamlessly with other Microsoft services, enhancing its data analytics and reporting capabilities. This makes it particularly ideal for creating interactive tools, such as on-demand news briefings for viewers or automated fact-checking support for journalists. Additionally, it can also be used to gather viewer feedback and analyse public sentiment across different geographic regions, providing valuable insights into audience preferences (Johnston et al., 2020). Azure Bot Service's scalability and integration with analytics tools make it a powerful resource for data-driven journalism. However, fully leveraging its capabilities may require technical expertise, which could present challenges for smaller newsrooms with limited IT support (Diakopoulos, 2019).

Conclusion

Each of these chatbots has unique strengths: Dialogflow's versatility, Newsbot's focus on content summarisation, Watson Assistant's data-processing capabilities, and CLIP's multimedia functionalities. By combining these AI-driven NLP chatbots, television newsrooms could optimize production processes, improve content accuracy, and offer more engaging and interactive news experiences for viewers. However, challenges persist in ensuring that these tools align with journalistic standards, maintain transparency, and provide contextually relevant content for diverse audiences.

AI in Diverse Fields and Cross-Disciplinary Evidence

The integration of AI across sectors like healthcare, law, marketing, and journalism reflects its versatility and potential to transform industry-specific workflows, decision-making, and public engagement strategies. In healthcare, for instance, AI-driven diagnostics and predictive analytics are reshaping patient care by enabling early diagnosis, personalised treatment plans, and overall improved outcomes (Jiang et al., 2017; Esteva et al., 2019). IBM's Watson for Health has set benchmarks for AI applications in diagnostics, where machine learning models analyse vast amounts of medical data to assist doctors in clinical decision-making (Topol, 2019; Obermeyer et al., 2019). These healthcare applications underscore key AI principles - accuracy, ethical handling of personal data, and the importance of human oversight—principles that are equally vital in AI-driven journalism to ensure trustworthy and quality (Diakopoulos, 2019; Gillespie, 2020).

In the legal field, AI-powered research assistants and automated document analysis have streamlined processes traditionally handled by human researchers, transforming case management and due diligence through faster, more accurate legal research (Ashley, 2017; Katz et al., 2020). However, these systems raise transparency issues, emphasising the need for ethical guidelines to mitigate risks of bias, especially when trained on limited or skewed datasets (Binns, 2018; Goodman & Flaxman, 2017). This challenge mirrors the situation in journalism, where AI tools like ChatGPT requires transparency to maintain the reliability of information shared with the public.

Marketing has similarly benefited from AI, with personalised, data-driven campaigns that leverage predictive analytics and Natural language processing (NLP) to understand consumer behaviour and enhance customer engagement (Davenport et al., 2020; Batra & Keller, 2016). These capabilities improve

audience targeting and content relevance, qualities that are critical for engaging viewers in journalism. AI systems in marketing that adapt in real-time to audience responses showcase potential for interactive, personalised news experiences (Li et al., 2019; Wu et al., 2020). Newsrooms can draw lessons from marketing practices to tailor news presentation, particularly in regions like Africa where cultural diversity and digital access can significantly shape engagement.

In communications, AI tools support content creation, moderation, and the automation of communication channels, enabling organisations to respond more efficiently to public inquiries (McStay, 2018; Crawford & Calo, 2016). In journalism, this translates to enriched audience interactions through chatbots and automated updates, like Microsoft's Azure Bot Service and Google's Dialogflow, which can handle inquiries and provide real-time updates to enhance audience engagement (Google, 2023; Microsoft, 2023).

In conclusion, the interdisciplinary applications of AI offer valuable lessons for journalism, particularly regarding ethical frameworks and adaptive content models. By learning from established AI practices, in other fields, newsrooms can address common challenges and capitalise on AI's advantages, such as enhancing viewer trust, engagement, and news personalisation.

2.3. A Comparative Analysis of Traditional News Production Methods vs. AI-Driven Methods

The rise of AI has significantly reshaped the landscape of news production, influencing how news is created, distributed, and consumed. Traditional methods, while deeply rooted in established journalistic principles and familiar workflows, often struggle with issues of speed, inherent biases, and limited scalability. By contrast, AI-driven methods introduce powerful advancement in automation and data processing, enabling quicker content generation and broader reach but bringing with them new concerns regarding authenticity and dependency on extensive data inputs.

This analysis provides a comparative look at these two approaches, examining the distinct advantages and limitations they bring to newsrooms today. In particular, we will explore how AI-driven tools, such as chatbots like ChatGPT, are influencing various stages of news production – from initial content generation and research to audience engagement – highlighting how these innovations are shaping modern journalism while also presenting unique challenges.

2.3.1. Speed and Efficiency

In traditional news production, the process relies heavily on human efforts for gathering, drafting, editing, and publishing news. Journalists manually collect information, conduct interviews, and write stories, often making this a labour-intensive and time-consuming endeavour. The reliance on manual processes can delay the news cycle, particularly in fast-paced scenarios, limiting the newsroom's ability to deliver breaking news in real-time (Schmitz Weiss, 2015). Conversely, AI-driven news production harnesses the power to chatbots and automated tools like ChatGPT, which can analyse data and generate news content within minutes. By processing vast amount of information quickly, AI algorithms can identify relevant data points and compose articles almost instantaneously, allowing for real-time updates and faster news delivery process. This capability enhances newsroom efficiency, making it possible to deliver timely news updates that keep pace with audience expectations in the digital era (Graefe et al., 2018).

2.3.2. Accuracy and Bias

In traditional news production, human journalists can inadvertently introduce biases into their reporting due to personal beliefs, cognitive biases, or external pressures from news organisations (Nickerson, 1998). These biases may compromise the objectivity of the news, resulting in selective reporting or framing that aligns with particular narratives. Such influences can impact the overall fairness and impartiality of the content being produced, which is a common challenge in traditional journalism.

On the other hand, AI-tools like ChatGPT aim to reduce such biases by following predefined algorithms designed to prioritise factual accuracy and neutrality. Since AI systems lack personal beliefs or emotions, they can produce content that is more consistent and objective, potentially leading to more balanced reporting. However, AI is not entirely free from bias. The systems rely on training data, which could carry biases embedded in the original sources (Montal & Reich, 2017). Therefore, the neutrality of AI-generated content depends heavily on the quality and diversity of the data it is trained on, meaning AI systems can still inadvertently reflect biases present in their datasets.

2.3.3. Scalability and Data Handling

In traditional news production, expanding coverage to include more topics or regions requires additional reporters and resources, which is both costly and time-consuming. This limitation restricts the breadth

and depth of content that can be produced, often making it challenging for newsrooms to meet the demand for fast, diverse coverage. As a result, news organisations may find it difficult to scale their operations to handle increasing amounts of news content or to cover diverse topics without incurring significant costs.

AI-powered news systems, however, excel in scalability. These tools can process large datasets, analyse information from multiple sources, and generate content in different formats simultaneously. This ability allows AI-driven systems to produce a vast amount of news content quickly and at a fraction of the cost and time that traditional methods would require (Napoli, 2015). By streamlining data handling and content production, AI offers newsrooms a powerful tool to efficiently expand their coverage and reach a wider audience without the same resource constraints that come with traditional news production.

2.3.4. Stages of News Production and Chatbot Impact

AI chatbots like ChatGPT are making a noticeable impact at various stages of news production, offering distinct advantages over traditional methods.

In research and information gathering, traditional journalists typically rely on manual research, conducting interviews, and field reporting to gather information. In contrast, AI chatbots can quickly access and analyse vast amounts of online data from articles, social media, and databases, providing a more comprehensive and real-time view of the subject matter (Schapals et al., 2016).

For content generation, human journalists craft stories based on gathered data, often adding a personal touch or narrative style. However, AI chatbots excel in generating content that is factual, to-the-point, and consistent in tone. While AI lacks the storytelling finesse of human journalist, it is highly effective in producing data-driven, standardised reports (Van Dalen, 2012).

In editing and proofreading, traditional newsrooms require a meticulous, time-consuming process for editing content. AI tools, such as Grammarly or other natural language processors integrated into chatbots, can quickly proofread and correct grammatical errors, ensuring that content is accurate and coherent. These tools can significantly speed up the editing process, allowing news organisations to focus on more content creating rather than manual proofreading (Karazoun, 2016; Lin & Lewis, 2022).

When it comes to distribution and audience engagement, traditional news distribution often follows a one-size-fits-all approach, delivering the same content to readers. AI-driven systems, however, can personalise news content to meet the preferences of individual readers. By leveraging user data, AI can deliver customised news feeds, enhancing user engagement and creating a more tailored experience for each reader (Diakopoulos, 2019). This level of personalisation helps to increase readership and foster a deeper connection with the audience.

2.3.5. Creativity and Human Touch

One of the key strengths of traditional news production is the creativity and narrative ability that human journalists bring to their stories. Human reporters have the ability to interpret complex issues, provide nuanced perspectives, and engage with audiences on an emotional level. This storytelling aspect often makes traditional news more compelling, relatable and accessible to a wide range of people. In contrast, AI-driven news production, excels in efficiency and accuracy, but lacks the human touch that makes news stories feel personal and emotionally resonate. AI can produce factually correct and grammatically sound content, but it struggles with creative expression and empathy – the qualities that human journalists can bring to their work (Van Dalen, 2012). AI-generated content can sometimes feel impersonal, as it lacks the depth and emotional engagement that human journalists are able to provide.

2.3.6. Ethical Considerations and Credibility

In traditional news production, journalists are guided by ethical standards, including fact-checking, source verification, and ensuring the credibility of the information they publish. However, the competitive nature of the news industry sometimes leads to shortcuts, sensationalism, or misinformation, particularly in the rush to be the first to report a story. While ethical journalism aims to maintain objectivity and accuracy, these pressures can occasionally result in biased or misleading reporting (Karazoun, 2016; Lin & Lewis, 2022). AI-driven news production has the potential to improve credibility by automating fact-checking processes and reducing the risk of human error. However, the credibility of AI-generated content is still highly dependent on the quality of the data it is trained on. If AI tools like ChatGPT are trained on biased or inaccurate data, they may inadvertently spread misinformation (Schapals et al., 2016). This highlights the importance of ensuring that the data used to train AI systems is carefully curated and validated to maintain the integrity of the information they produce.

Conclusion

The comparison between traditional news production and AI-driven methods demonstrates both the strengths and challenges of each approach. AI's offers advantages in speed, scalability, and data-driven analysis, providing significant improvements in efficiency and objectivity. However, traditional journalism continues to hold value for its creativity, ethical standards, and human-centric storytelling. As AI continues to develop, it is likely to complement, rather than replace, traditional news production. The future of news production may involve a hybrid model that combines the best features of both, ensuring more efficient, accurate, and engaging news delivery to audiences.

2.4. Assessing the Reliability and Ethical Implications of ChatGPT and other chatbots in television news production

The growing use of chatbots like ChatGPT in journalism and news production has raised significant concerns about their reliability, accuracy, and ethical implications of AI-generated content. While these technologies offer potential benefits such as streamlining tasks and enhancing efficiency, studies by Sallam (2023), Carlson (2019), Horska (2020), and Mohamed (2021) have highlighted concerns regarding trustworthiness of AI-generated content in newsrooms. These studies indicate that chatbots may inadvertently introduce biases and inaccuracies, potentially compromising the integrity of television news reporting. For example, Yang et al. (2019) found that while chatbots can modernise and streamline the writing process, they can also perpetuate biases and inaccuracies in news articles. Research by Lamprou & Antonopoulos (2023), Dhiman (2023), and Brameier et al. (2023) has also pointed out challenges in using chatbots like ChatGPT in fact-checking, emphasising the risk of spreading misinformation if these tools are not properly supervised. Additionally, there are concerns surrounding the transparency of AI tools in news production, questioning the validity of their outputs. These studies emphasise the importance of establishing clear guidelines to ensure the legitimacy of AI-generated content and mitigate the risk of misinformation. Furthermore, there are broader concerns regarding the potential impact of AI on the role of journalists in television news production. Studies by Kioko et al. (2022), Broussard et al. (2019), and Jones, Jones, & Luger (2022) have underlined fears that AI technologies like ChatGPT could undermine the independence and expertise of journalists, potentially leading to job displacement or devaluation of journalistic skills. Kim & Kim (2020) and Biswas (2023) explored the implications of AI on journalists' roles, raising questions about the future of journalism in an increasingly automated environment.

The potential for AI-generated content to introduce biases and inaccuracies in television news reporting stems from several factors inherent in the design and functioning of AI language models like ChatGPT (Smith, 2022). These include:

1. **Training Data Biases:** Models like ChatGPT learn from vast amounts of text data, which may reflect and perpetuate biases already present in the data (Johnson & Lee, 2020). If the training data is biased, the AI model may inadvertently reproduce these biases in its generated content (Jones et al., 2018). For example, if the data predominantly consists of news articles with a particular ideological or cultural perspective, a chatbot may generate content that aligns with those biases (Sullivan, 2019).
2. **Contextual Understanding Limitations:** While chatbots like ChatGPT can generate coherent text based on input prompts, they may lack a nuanced understanding of context and real-world implications (Chen & Patel, 2021). This limitation can lead to content that is factually inaccurate or insensitive to contextual nuances (Miller & Smith, 2017). For example, ChatGPT may produce misleading or inaccurate information if it misinterprets the context of a news story or fails to consider relevant background information (Brown et al., 2020)
3. **Algorithmic Biases and Ambiguities:** The algorithms underlying AI language model like ChatGPT may exhibit biases or ambiguities in their decision-making processes (Garcia & Perez, 2019). These biases can manifest in various ways, such as favouring certain types of language or interpretations over others (Taylor, 2018). Additionally, the algorithms may struggle to handle ambiguous language or complex topics, leading to inaccuracies or misunderstandings in the generated content (Wang et al., 2021).
4. **Lack of Oversight and Human Supervision:** Without adequate human supervision, AI-generated content may be released without sufficient scrutiny for biases or inaccuracies (Clark et al., 2019). In a fast-paced news environment, there may not be enough time or resources to thoroughly review AI-generated content before publication, which increases the likelihood of errors being overlooked (Brown & Williams, 2020).

Overall, while chatbots like ChatGPT have the potential to enhance productivity and streamline the writing process in television news production, they also present risks to the integrity of reporting. These risks arise from biases, limitations in contextual understanding, algorithmic ambiguities, and the potential lack of human oversight (Jackson & Harris, 2022). Addressing these challenges requires careful consideration of the ethical implications of AI use in news production, as well as strategies to mitigate biases and ensure

the accuracy and integrity of AI-generated content (Smith & Johnson, 2021). Particularly in regions like the Global South and Africa, where technological adoption may outpace regulatory frameworks, it is crucial to prioritise ethical considerations and develop policies that safeguard the integrity of news reporting in the digital age.

2.5. Recommendations for Policies and Regulatory Frameworks to Ensure the Ethical Use of AI Chatbots in Television News Production

As AI chatbots like ChatGPT become more integrated into television news production, there is a growing need for regulatory frameworks to ensure their ethical use. These frameworks should cover key issues like transparency, accountability, fairness, and privacy. Given the varied socio-economic and political conditions in across regions, particularly between the Global North and South, regulatory policies must be flexible enough for regional differences.

1. Transparency and Disclosure Requirements

News organisations should be legally required to disclose when content is generated or assisted by chatbots. This can include visible markers in broadcasts, such as captions indicating AI involvement, and publicly available policies on AI usage in editorial processes. Transparency is central to AI use, as it ensures that audiences are aware of the nature and source of the information they are consuming. AI-generated content without proper disclosure risks misleading audiences, violating their right to be informed, and eroding trust in media institutions (Floridi & Cowls, 2019; Binns, 2018). Transparency laws would protect consumers by mandating full disclosure, similar to how sponsored content and advertising are labeled in many jurisdictions. Such regulations would help maintain journalistic integrity and protect consumers from deception (Citron & Pasquale, Diakopoulos, 2019; 2014; Pasquale, 2015). In the Global South, particularly in Africa, where media literacy varies, policies in these regions should emphasise clear labeling of AI-driven content and include public education campaigns to raise awareness of AI in media (Floridi & Cowls, 2019; Pasquale, 2015).

2. Bias Mitigation and Inclusive Data Training

Governments should require news organisations to audit AI systems for bias and ensure that AI tools are trained on diverse and representative datasets. This is especially important to prevent reinforcing existing societal biases in news coverage. Regular audits and inclusive training sets are critical to avoid perpetuating

harmful stereotypes or systemic biases (Floridi & Cowls, 2019; Binns, 2018). Legal frameworks should mandate these audits and ensure non-discriminatory practices in AI usage (Citron & Pasquale, 2014). In Africa, AI models should be trained on local datasets to reflect regional diversity to avoid marginalising certain groups. This would ensure that AI-generated news is more inclusive and representative of local context (Floridi & Cowls, 2019; Binns, 2018).

3. Data Privacy and Consent Laws

AI systems used in news production must comply with stringent data privacy laws, regulating how AI collects, stores, and uses personal data. AI systems must respect individuals' privacy, particularly when personal data is used to personalise content or gather insights about news consumption patterns (Floridi, 2016; Binns, 2018). Laws such as the General Data Protection Regulation (GDPR) in the European Union provide a strong model for privacy protections. Similar frameworks should be adopted in the Global South to regulate AI usage in journalism, including provisions for data collection consent, secure storage, and transparent data sharing rules (GDPR, 2016; Citron & Pasquale, 2014). In African contexts, where data privacy laws are often less robust, strengthening these regulations is essential to protect citizens from surveillance and exploitation (Floridi, 2016; GDPR, 2016).

4. Legal Accountability for Misinformation

Policies should clearly define legal accountability for news organisations using chatbots. Media outlets must be responsible for ensuring the accuracy of AI-generated content and correcting any misinformation or harm caused by erroneous AI outputs. AI-generated content should not absolve organisations of this responsibility; they must have oversight mechanisms in place to verify AI outputs (Floridi & Cowls, 2019). Legal frameworks should extend liability to AI systems for issues like defamation or misinformation, holding news organisations accountable for the content generated by AI (Citron & Pasquale, 2014; Pasquale, 2015). In Africa, where misinformation can have significant political and social implications, strong legal frameworks are necessary to prevent AI from becoming a tool for spreading false information, especially during elections or crises (Floridi & Cowls, 2019; Citron & Pasquale, 2014).

5. Public Education and Media Literacy Initiatives

Governments and media organisations should implement public education campaigns focused on AI literacy. These initiatives should teach audiences how to recognise AI-generated content and assess its credibility, enabling the public to engage critically with automated news production. Media literacy programmes would help citizens to understand the role of AI in journalism and its potential ethical risks, such as bias or manipulation (Floridi & Cowls, 2019). In Africa, where access to education and technology may be limited, partnerships with civil society and educational institutions can promote media literacy, particularly in rural areas. These initiatives would bridge the digital divide and empower citizens to engage critically with AI-driven media (Schapals et al., 2016).

2.5.1. Interdisciplinary Perspectives on AI in Journalism: Ethics, Law, and Communications

The integration of AI in journalism, particularly in television news production, intersects profoundly with ethics, law, and communications studies. Examining these fields offers insights into the ethical challenges, communication dynamics, and legal complexities posed by AI – generated content and the responsible incorporation of technologies like chatbots in newsrooms.

1. Ethical Perspectives: Transparency, Bias, and Integrity in Journalism

The ethically use of AI chatbots in journalism raises concerns around transparency, bias, and the core integrity of journalistic practices. For viewers to maintain trust in news sources, they must be informed when content is AI-generated; however, explicit disclosures are often minimal or overlooked (Diakopoulos, 2019; Binns, 2018). Additionally, AI systems like ChatGPT may unintentionally reproduce biases present in their training data, thereby affecting news coverage and, potentially, public opinion – a direct challenge to journalism's commitment to objectivity (Gillespie, 2020; Binns, 2018). Addressing these ethical concerns requires that media organisations establish clear accountability for the quality and accuracy of AI-generated content, underscoring editorial responsibility in an AI-enhanced newsroom.

2. Legal Perspectives: Copyright, Liability, and Data Privacy

The legal landscape for AI-generated content encompasses copyright, liability, and privacy issues, each bringing unique challenges. Current copyright frameworks generally do not extend to non-human authorship, leaving the ownership of AI-generated news ambiguous (Samuelson, 2020). Additionally,

media organisations face potential liability risks if chatbot-generated content includes defamatory statements or false information, as responsibility can be complex in cases involving autonomous AI tools (Ryan, 2021; Wirtz et al., 2018). Privacy concerns are also prominent, particularly when chatbots leverage user data to personalize content, raising issues of consent and data protection, especially under stringent regulations like the General Data Protection Regulation (GDPR) of the European Union.

3. Communications Perspectives: Impact on Audience Trust and Media Literacy

Within communication studies, AI-generated news presents challenges to audience trust, as viewers may approach automated content with skepticism regarding authenticity and objectivity (Graefe et al., 2018; Carlson, 2020). Media literacy initiatives play a pivotal role in helping viewers understand AI's functions in journalism and develop critical skills to evaluate AI-generated content. Transparent communication about AI's role in news production can enhance trust, fostering an informed audience by clearly indicating when chatbots are involved in content creation (Graefe et al., 2018; Woolley & Howard, 2019).

Integrating Interdisciplinary Perspectives for Responsible AI Use

The convergence of these ethical, legal, and communication insights highlights the necessity of comprehensive standards for responsible AI integration in journalism. Ethical considerations for transparency and bias mitigation, legal concerns demand updated frameworks for copyright and liability, and communication strategies underscore the importance of audience education and clear disclosures. Together, these perspectives advocate for balanced AI adoption, ensuring that AI supports rather than undermines the quality and integrity of journalism.

Conclusion

Responsible AI use in television news production, especially with tools like ChatGPT, requires robust interdisciplinary frameworks addressing transparency, bias, data privacy, misinformation, and public education. In the Global South, and Africa in particular, regulatory needs may differ from those in the Global North due to unique socio-economic conditions, media landscapes, and levels of media literacy. A comprehensive approach, integrating ethical, legal, and communication perspectives, is crucial for the responsible deployment of AI in journalism, ensuring it serves the public interest worldwide.

2.6. Bridging the Gap: Exploring ChatGPT and similar news producing chatbots Adoption in African Television Newsrooms

While the field of AI continues to expand rapidly, much of the research has focused on the Global North, leaving a significant gap in understanding its implications and applications within the Global South (Mutsvairo & Bebawi, 2022; Soto-Sanfiel et al., 2022; Jamil, 2021; Sun, Hu, & Wu, 2022). Current literature reveals an ongoing debate about AI's role in journalism, as well as journalists' attitudes toward AI-driven practices in the Global South. This has prompted discussions around the need for increased transparency and the adoption of advanced journalistic practices in newsrooms across the region. While the adoption of AI in television newsrooms has been well-documented in Western countries (Borchardt, 2022; Stray, 2019; Veglis & Maniou, 2019; Waddell, 2018), some African countries, including South Africa, Kenya, Nigeria, and Tunisia, are beginning to embrace AI in news production (Gondwe, 2023; Kothari & Cruikshank, 2022; Guanah, Agbanu, & Obi, 2020). Despite these emerging trends, there is still a scarcity of information on how newsrooms across the African continent are leveraging AI technologies like ChatGPT (Wamunyu, 2021; Brokensha, 2020; Guanah, Agbanu, & Obi, 2020). This knowledge gap highlights the need for further research into the specific challenges, opportunities, and implications of integrating AI-driven chatbots in African newsrooms. Such research would provide valuable insights into how these technologies are reshaping journalism practices, fostering innovation, and addressing the unique needs and contexts of the Global South (Thompson, 2023; Gupta & Chatterjee, 2022). Understanding the adoption of AI chatbots like ChatGPT in African newsrooms could inform policy development, capacity-building initiatives, and investment strategies that promote sustainable and inclusive digital journalism ecosystems across the continent (Smith & Johnson, 2021; Patel et al., 2020). By adopting AI tools, including ChatGPT, NBC would position itself as a leader in technological innovation, enhancing the efficiency, accuracy, and engagement of its television news production processes.

2.6.1. Case Studies of AI-driven Adoption in African Newsrooms: South Africa, Kenya, Nigeria, and Tunisia

AI technology is gradually being integrated into African newsrooms, offering innovative solutions to challenges such as streamlining content creation, combating misinformation, and improving audience engagement. Below are specific examples and case studies of how AI tools, like ChatGPT, are being utilised in the media landscapes of selected African countries, followed by a comparative analysis of AI chatbots use in Africa versus Western newsrooms.

1. South Africa: AI-Driven Journalism at Media24

In South Africa, *Media24*, one of the country's leading news publishers, has started incorporating AI tools to enhance its news production process. AI is used for automatic content generation, such as summarising news stories or creating financial reports. These tools help scale coverage of smaller events that do not require in-depth journalistic investigation. For example, AI helps produce sports recaps, weather reports, and routine news bulletins at a much faster pace. Additionally, *Media24* uses AI for audience analytics, helping editors to understand content preferences through predictive algorithms. Although AI enhances productivity, human journalists at *Media24* still oversee the final editing process to ensure accuracy and quality control. In South Africa, AI adoption is primarily seen as a means to boosting efficiency in resource-limited newsrooms where time constraints and workforce limitations are significant challenges (Steenveld & Strelitz, 2020). However, issues about journalistic integrity, potential job displacement, and the phenomenon of "automation bias" remain issues (Fourie, 2019).

2. Kenya: AI in Investigative Journalism at The Nation Media Group

In Kenya, *The Nation Media Group* is taking a leading role in using AI for investigative journalism. AI tools are particularly useful for sifting through large datasets, providing insights that journalists can then investigate further. AI is also utilised in transcribing interviews and analysing social media trends to capture the pulse of public opinion, assisting in more timely and relevant news reporting. For example, during the 2022 elections, AI was used to monitor social media platforms for misinformation. Chatbots flagged potentially misleading content, enabling journalists to verify or debunk viral claims before they spread (Ruhanga, 2022). AI-driven tools have helped combat misinformation and identify emerging trends in Kenya's newsroom, making the journalism process more efficient. However, challenges related to data privacy remain, particularly regarding how personal information is harvested for AI-driven analytics (Mutahi & Kimuyu, 2022).

3. Nigeria: AI-Enhanced News at The Punch and Premium Times

In Nigeria, both *The Punch* and *Premium Times* are integrating chatbots to engage their audiences more interactively. For instance, *The Punch* developed a chatbot that interacts with readers in real-time, providing updates on breaking news and answering frequently asked questions. The chatbot draws from a large dataset of news articles and continuously learns from user interactions to improve its accuracy. *Premium Times* uses AI for content curation, leveraging machine learning to push targeted stories to

readers based on their browsing history and preferences. This has helped to increase reader engagement and subscriptions. Nigeria's use of AI is still in its infancy but shows promise in expanding the reach of news content and making it more personalised for readers. However, challenges include limited access to high-quality datasets, which hamper accuracy, as well as concerns about surveillance (Ogunleye, 2021).

4. Tunisia: AI-Focused Media Startups

In Tunisia, AI adoption in journalism is being driven by startups like *Inkyfada* and *Meshkal*, which use AI for multimedia content production, including automatic video subtitling and transcription in multiple languages. AI chatbots are also being tested to provide real-time news updates on social media platforms like Facebook and Twitter, improve the accessibility of content in a multilingual context. AI is helping news outlets cater to Tunisia's linguistically diverse audience and cover more stories with fewer resources (Zitouni & Ghedira, 2021). However, challenges like funding constraints and a lack of technical expertise remain significant barriers.

2.6.2. A Comparative Analysis: AI Use in African vs. Western Newsrooms

Motivations for AI Adoption

In Africa, the drive to adopt AI tools is largely driven by resource constraints, the need for more efficient content production, and the battle against misinformation. Chatbots are seen as tools to improve productivity, especially in newsrooms where staff and budgets are limited (Ruhanga, 2022; Mutahi & Kimuyu, 2022). In contrast, Western newsrooms often focus using AI to augment high-end journalism practices, such as investigative journalism, personalising content delivery, and leveraging predictive analytics to enhance audience engagement and advertising revenue (Diakopoulos, 2019).

Challenges

African newsrooms face unique challenges such as limited access to data and technology, compounded by the digital divide often experienced in rural areas. AI models often lack sufficient localised datasets, meaning they may not fully capture African languages, cultures, or societal contexts, thus limiting their effectiveness (Fourie, 2019). Western newsrooms, by comparison, have better access to data, technology, and expertise, but they struggle with ethical dilemmas, such as the risk of job loss and the potential for algorithmic bias (Pasquale, 2015).

Outcomes

In Africa, AI-driven solutions like chatbots are showing positive outcomes in combatting misinformation, increasing content reach, and making news more accessible. However, challenges like limited datasets and the need for regulation persist. In Western newsrooms, chatbots like ChatGPT are driving personalised journalism and innovative approaches in storytelling, but concerns about algorithmic bias and the ethical implications of automating editorial judgment continue to raise important questions (Citron & Pasquale, 2014).

2.6.3. Existing Regulatory Frameworks for AI in African Journalism

AI regulation in Africa is still in its early stages, though some countries have made progress in establishing relevant frameworks:

i. South Africa has implemented data protection laws under the Protection of Personal Information Act (POPIA), which governs how organisations, including media houses, use personal data. Although not specifically tailored to AI in journalism, it applies to AI systems that process personal data (Fourie, 2019).

ii. Kenya has introduced a Data Protection Act, but regulations specific to AI in journalism are still in development. AI systems that impact journalism, particularly those involving data collection, must comply with this law. Kenya's Communications Authority is working on frameworks to govern AI use in media (Mutahi & Kimuyu, 2022).

iii. Tunisia has made strides in promoting freedom of expression and regulating the media sector, but AI-specific policies are still emerging. The country's growing tech sector has spurred discussions on creating regulations that balance innovation with ethical considerations (Zitouni & Ghedira, 2021).

While these countries have data privacy laws, the absence of comprehensive AI-specific regulations mean more work is needed to ensure AI adoption is responsible, transparent, and ethical in African journalism.

Future Directions for AI in African Journalism

Localised: As AI becomes more integrated into African newsrooms, there is a pressing need to develop chatbot models that are trained on localised datasets, reflecting the diversity of African languages,

cultures, and social issues. This would increase the relevance and accuracy of AI-driven tools in African media.

Regulatory Frameworks and Ethical Oversight African: Governments in the Global South need to establish robust AI policies tailored to journalism, focusing on accountability, transparency, and bias mitigation. Collaborative efforts between governments, media bodies, and civil society can lead to frameworks that ensure AI is used ethically while promoting innovation.

Capacity Building and Skill Development: To fully harness AI's potential in African journalism, there is a need for more investment in capacity building, including training journalists to work alongside chatbots, ensuring human oversight in editorial decisions, and understanding their limitations.

AI for Misinformation and Fact-Checking: In the future, AI chatbots could become powerful tools in combating misinformation in African media landscapes. AI-driven fact-checking tools, already gaining traction in Kenya and Nigeria, are expected to expand, providing real-time fact verification during elections and crises.

2.6.4. Future Directions, Potential Developments In AI Use In African Journalism: Predicting Future

Trends And Emerging Technologies

The future of AI in African journalism is poised for transformative developments as emerging technologies continue to reshape how news is produced, delivered, and consumed. While current applications in African newsrooms mainly involve basic AI tools like ChatGPT for text generation and automated news updates, future directions suggest a broader integration of advanced AI capabilities, including NLP, machine learning (ML) for data-driven journalism, and immersive technologies like virtual and augmented reality (VR/AR) to enhance storytelling.

1. Advanced Natural Language Processing and Multilingual AI Tools

NLP advancements are likely to play a significant role in African journalism by facilitating news production in diverse languages, a critical factor given Africa's linguistic diversity (Chakravorti, 2020; Marwala & Hurwitz, 2021). AI chatbots and text generators will increasingly be capable of translating and generating news in multiple African languages, improving accessibility and inclusivity for non-English-speaking audiences. This trend aligns with the goals of organisations like Google, which has started developing NLP

tools specifically for African languages, supporting regional media outlets in reaching a broader audience without compromising linguistic diversity (Chakravorti, 2020; Marwala & Hurwitz, 2021).

2. Data-Driven Journalism and Predictive Analytics

As data becomes an essential resource for newsrooms, African journalists are likely to adopt data-driven journalism facilitated by machine learning ML tools that can analyse large datasets to uncover newsworthy patterns (Nyabola, 2018; South African Media Innovation Program, 2021). Predictive analytics can help journalists anticipate emerging trends, enabling proactive reporting on issues before they escalate. This approach is especially beneficial in regions with limited on-the-ground resources, where ML can identify trends in social media data, public records, and financial reports, thus providing journalists with new story angles and insights that would otherwise be challenging to uncover (Nyabola, 2018; SIMP, 2021).

3. Immersive Storytelling: Virtual Reality (VR) and Augmented Reality (AR)

The integration of VR and AR technologies in journalism could mark a future trend in African media, allowing journalists to produce immersive stories that place audiences within the narrative. These technologies can enable viewers to experience news events more vividly, bridging the gap between audiences and often underreported issues on the continent (Mukherjee et al., 2020). While still in its infancy in Africa, the growing accessibility of AR/VR technologies could see African newsrooms adopting these tools to present complex stories in a visually compelling and experiential way, especially for historical and socio-political narratives (Mukherjee et al., 2020; SIMP, 2021).

4. Ethical AI Use and Transparency Standards

As AI use in African journalism grows, so does the need for ethical standards and transparency to mitigate issues like algorithmic bias and misinformation (Woolley & Howard, 2019; Morley et al., 2021). Future developments in African journalism will likely include regulatory frameworks to govern AI content generation, including transparent disclosure of chatbots' role in news production and systematic checks to ensure unbiased reporting. Organisations like the African Union and regional bodies are already discussing policies around digital ethics, which could serve as a basis for AI regulation in journalism (Woolley & Howard, 2019; Morley et al., 2021). Furthermore, AI literacy initiatives will become essential, equipping journalists and editors with the skills to critically evaluate and manage AI tools within newsrooms.

5. AI-Powered Fact-Checking and Combating Misinformation

With misinformation posing a significant challenge to African newsrooms, AI-driven fact-checking systems will become vital. AI tools capable of real-time content verification and analysis of online misinformation trends will help newsrooms maintain credibility and accuracy (Brennen et al., 2020; Africa Check, 2021). African news organisations may increasingly rely on AI to monitor social media and flag false or misleading content before it gains traction, reinforcing their role in combating misinformation (Brennen et al., 2020; Africa Check, 2021).

6. AI and Social Media Impact on Television News Production

In the context of television news production, AI chatbots like chatGPT aid in audience segmentation by analysing social media metrics and audience demographics, which allows newsrooms to produce content that aligns with viewer preferences. Through chatbot-driven interactions on social media, news organisations can gauge the interest level of various topics, directly influencing programming decisions for television broadcasts. For instance, a trending issue on social media that garners widespread engagement may prompt newsroom editors to feature it prominently in evening broadcasts, ensuring that television news content reflects real-time audience concerns and interests (Dube, 2021; Bock, 2021).

Future Implications and Ethical Considerations

The future trajectory of AI in African journalism presents both promising possibilities and ethical dilemmas. As AI becomes more sophisticated, journalists must balance AI efficiency with the traditional values of journalistic integrity, raising questions about the appropriate role of machines in storytelling. AI's growing influence could redefine editorial standards, pushing for nuanced ethical codes that prevent misuse or manipulation of automated tools in news contexts (Diakopoulos, 2019; Binns, 2018). Moving forward, African journalists and policymakers must work together to establish frameworks that foster AI innovation while upholding journalistic principles, ultimately promoting an AI-enhanced journalism landscape that supports democracy and informed public discourse.

2.7. Perspectives of African Journalists on Chatbot Integration in Television News Production in Africa

The perceptions of African journalists regarding the use of ChatGPT and other chatbots in television news production play a pivotal role in shaping the adoption and integration of AI technologies in newsrooms across the continent. Research indicates that African journalists hold diverse attitudes and opinions, reflecting both enthusiasm and apprehension towards using chatbots in their professional practices (Adeleke & Ojebuyi, 2020; Nyamnjoh, 2019). However, alongside these perceived benefits, African journalists have also expressed concerns about using chatbots like ChatGPT in television news production.

A common concern is that chatbot-generated content might lack the context and cultural sensitivity necessary for accurate and informative reporting, especially on complex or sensitive topics (Adeleke & Ojebuyi, 2020; Nyamnjoh, 2019). African journalists' perceptions of chatbots in television news production are multifaceted, reflecting a complex interplay of optimism, skepticism, and ethical considerations. While many journalists acknowledge the potential for chatbots like ChatGPT to enhance efficiency and productivity, concerns remain about its impact on content quality, editorial autonomy, and journalistic ethics.

2.7.1. Journalist Training and Skills Development in an AI-Augmented Newsroom

As chatbots become more integrated into newsrooms, it is clear that journalists will need to develop new skills and adapt to working alongside AI systems. News organisations will need to invest in training and retraining programs to equip their staff with the necessary competencies to thrive in AI-augmented environments. This section explores the essential skills that journalists will need and how newsrooms can retrain staff to harness the full potential of AI technologies.

1. Key Skills Essential for Journalists in an AI-Augmented Newsroom

i. **Data Literacy and Analytics:** One of the most critical skills for journalists in AI-driven newsrooms is data literacy. AI systems, especially those used in content generation and audience engagement, rely heavily on data. Journalists will need to understand how to work with data, including collecting, interpreting, and applying it to news stories. They should also be proficient in using AI tools to analyse data patterns and trends, which can help them generate insights and identify newsworthy stories (Diakopoulos, 2019). For example, in South Africa, larger media houses such as Media24 are incorporating AI tools that analyse audience preferences and content performance, requiring their journalists to understand these metrics and apply the insights to their reporting (Fourie, 2019).

ii. **Understanding AI Ethics and Bias:** Journalists must also be trained in the ethical considerations surrounding AI use as chatbots become more involved in content creation, including recognising potential biases in algorithms and understanding how to mitigate their impact on reporting. Journalists will need to be vigilant about the ethical implications of using AI tools, particularly when it comes to accuracy, fairness, and transparency (Pasquale, 2015). For example, journalists in Nigeria, where AI is being tested for generating real-time updates and news alerts, are receiving training to ensure that AI-generated content

adheres to ethical journalism standards, especially regarding political neutrality and cultural sensitivity (Ogunleye, 2021).

iii. Collaborative Skills: Working alongside AI means that journalists will need to develop new collaborative skills, as they shift from being sole content creators to co-working with chatbots. Journalists must understand the limitations of AI and learn how to apply editorial judgment to the outputs generated by these systems. Rather than viewing chatbots as a competitor, they will need to collaborate with AI to enhance their storytelling capabilities.

iv. Tech Proficiency and Adaptability: As the news industry continues to adopt various AI tools for content generation, journalists will need to become proficient with these technologies. This includes learning how to use AI-powered tools for tasks such as transcription, video generation, automated reporting and social media monitoring. Journalists will also need to stay adaptable and be open to learning new tools as the technology evolves (Steenveld & Strelitz, 2020). For example, in Kenya, journalists at Nation Media Group have started receiving technical training on how to integrate AI-driven content management systems into their daily workflows, ensuring that they can work efficiently with these tools (Mutahi & Kimuyu, 2022).

2. How News Organisations Might Retrain Their Staff to Work Alongside AI Technologies

The transition to AI-augmented newsrooms will require significant investment in training and development programs. News organisations must prioritise reskilling their current workforce to ensure that journalists are well-prepared to use chatbots effectively. Below are some strategies for retraining staff:

i. In-house Training Programs: Large news organisations may opt to create in-house training programs that focus on AI literacy, ethical journalism in AI contexts, and data analysis. These programs can help journalists familiarise themselves with AI tools like content automation systems, chatbots, and audience analytics platforms. For example, in Tunisia, media startups like Meshkal have begun offering workshops to journalists that teach how to use AI-driven tools for reporting and content distribution (Zitouni & Ghedira, 2021).

ii. Partnerships with Tech Companies: News organisations can partner with AI technology companies to provide specialised training programs for journalists to help ensure that journalists have access to the latest tools and understand how to integrate them into their workflows. For example, Nation Media Group

in Kenya has partnered with local tech companies to train its journalists on using AI-powered analytics and content generation tools (Mutahi & Kimuyu, 2022).

iii. Online Courses and Certifications: Newsrooms can also encourage journalists to pursue online courses and certifications in AI and data journalism. Many universities and online platforms offer courses that teach journalists how to use AI tools and how to apply data-driven reporting techniques.

iv. Workshops and Continuous Learning: Ongoing workshops and training sessions are essential to keep journalists up to date with new AI advancements to ensure that journalists can adapt to new AI technologies as they emerge and remain competitive in the evolving media landscape.

3. The Future of Journalism Skills in an AI-Driven Environment

As AI-driven tools continue to reshape the newsroom, journalists will need a blend of traditional journalism skills and technical expertise. Human-centric skills such as editorial judgment, critical thinking, and storytelling will remain crucial, as these are areas where AI currently struggles. At the same time, journalists will need to master new technologies and data-driven approaches to reporting. In the future, journalists who can combine these skill sets will be best positioned to thrive in AI-augmented newsrooms.

Conclusion

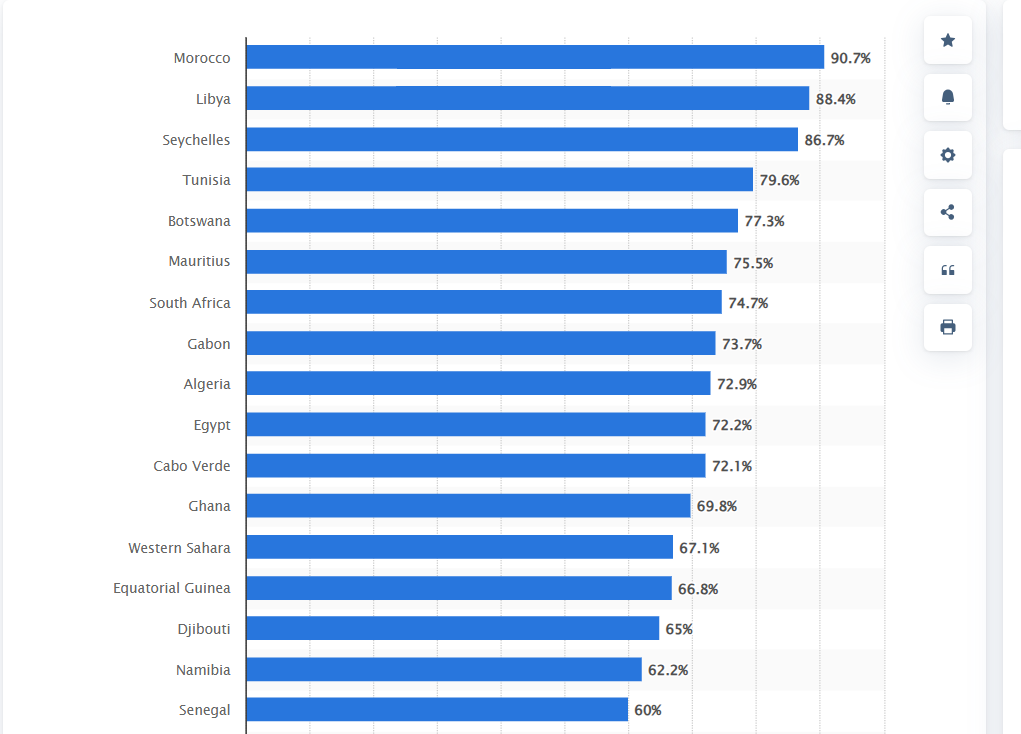
The rise of AI in journalism necessitates significant changes in how journalists are trained and the skills they will need moving forward. Data literacy, AI ethics, collaboration, and tech proficiency are among the essential skills journalists must develop. News organisations, particularly in Africa, will need to invest in retraining their staff to ensure they can work effectively alongside AI technologies. With the right training and approach, AI-driven have the potential to enhance journalism, enabling journalists to focus on more in-depth reporting while automating routine tasks. Thus, addressing African journalists' perceptions on chatbots like ChatGPT's integration in television news production in Africa requires a deep understanding of the opportunities and challenges posed by AI technologies in the African media landscape, along with proactive measures to ensure their responsible and ethical use.

2.8. Unique Challenges Faced by African Newsrooms in Integrating AI

The integration of AI into African newsrooms offers significant potential, but it also presents unique challenges that are shaped by the continent's technological infrastructure, media environments, and

socio-economic conditions. These challenges span from **infrastructure limitations** and **access to technology**, to **varying levels of digital literacy** and **financial constraints**. Below is an in-depth exploration of these hurdles and how they impact the effective deployment of AI tools in African journalism.

Share of internet users in Africa as of January 2024, by country



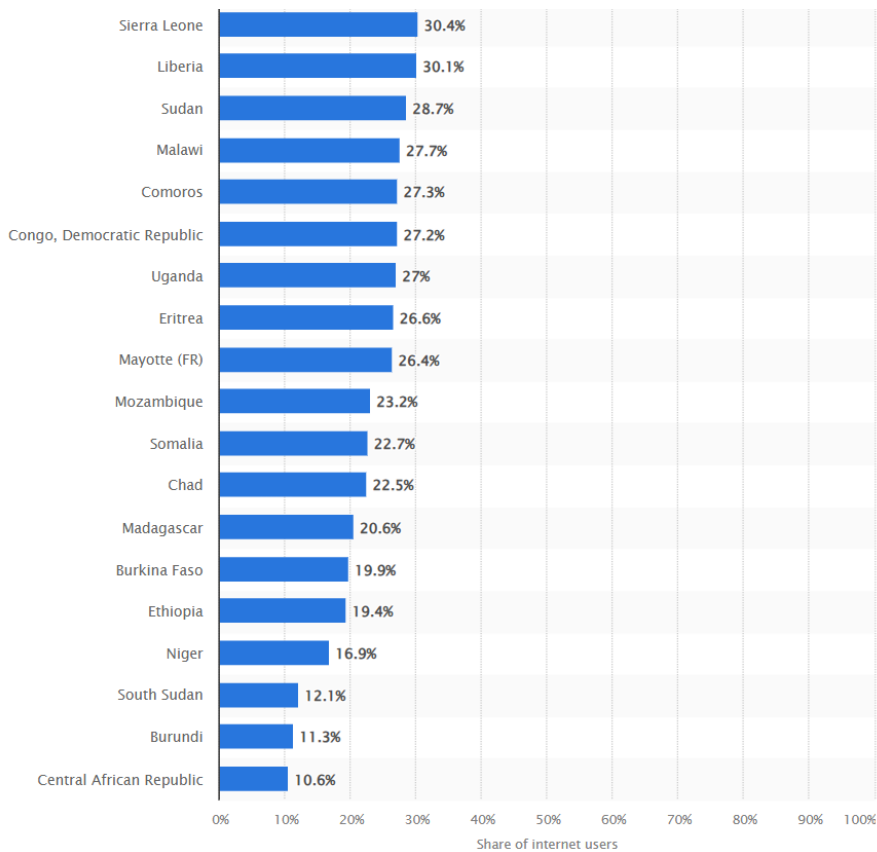
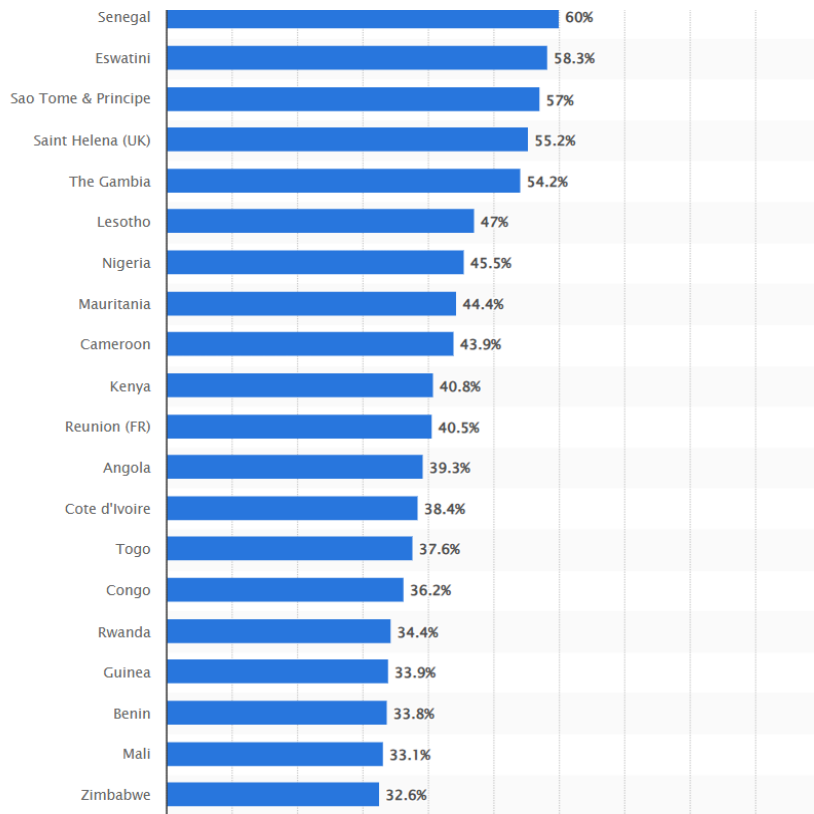


Figure 1. (Above): According to statistics as of January 2024, Morocco had an internet penetration of approximately 91 percent, making it the country with the highest internet penetration in Africa. Libya ranked second, with around 88 percent, followed by Seychelles with roughly 87 percent and Namibia ranking at 62.2 percent. On the other hand, South Sudan, Burundi, and The Central African Republic had the lowest prevalence of internet among their population (Statista website, 2024).

2.8.1. Infrastructure Limitations

One of the primary challenges that African newsrooms face when adopting AI is the lack of adequate technological infrastructure. Many African countries suffer from inconsistent internet connectivity, poor broadband penetration, and unreliable power supplies, all of which are crucial for deploying AI-driven solutions. A significant portion of Africa's population still lacks access to stable and affordable internet services and connectivity. AI tools, particularly those that require real-time data processing or cloud computing, depend heavily on high-speed internet connections (Fourie, 2019). In rural areas where infrastructure is especially poor, this becomes an even greater obstacle to AI adoption. For example, in countries like the Democratic Republic of Congo and Ethiopia, internet penetration is below 20%, limiting the capacity of media organisations to access and implement AI tools efficiently (Mutahi & Kimuyu, 2022). Moreover, frequent power supply issues that lead to outages are a significant hindrance to the deployment of AI systems in many African countries, particularly those that rely on server-based processing or require twenty-four hour uptime for chatbots or automated content generators. This challenge is particularly prevalent in West African countries like Nigeria, where power reliability is a known issue (Ogunleye, 2021).

2.8.2. Access to Technology and AI Tools

While AI technologies are advancing rapidly in Western countries, African newsrooms often have limited access to these tools due to high costs and limited availability. Advanced AI tools and software are often prohibitively expensive for African media outlets, many of which operate on shoestring budgets. Licensing fees for platforms like OpenAI's GPT or proprietary newsroom software can be a major financial burden, especially for smaller or independent news organisations (Steenveld & Strelitz, 2020). For instance, in South Africa, larger media corporations like Media24 have been able to invest in AI tools for content generation, but smaller publications face difficulties in accessing similar technology (Fourie, 2019). Some of the challenges lie in technological lag, whereby AI systems typically rely on advanced hardware like

GPUs (graphics processing units) and cloud services, which are not always available in African markets. In addition, many of the necessary machine-learning models are designed for Western contexts and languages, making it difficult for African newsrooms to adapt these tools without substantial localisation (Ruhanga, 2022).

2.8.3. Varying Levels of Digital Literacy

The adoption of AI in newsrooms also depends on the digital literacy of journalists, editors, and other media professionals. In many African countries, journalists may lack the necessary training or familiarity with chatbots, which limits their ability to effectively use these technologies. There is also growing concern that many journalists in Africa are not equipped with the necessary skills to interact with AI-based systems. This skills gap creates a dependency on external developers or tech companies, raising issues of editorial autonomy (Mutahi & Kimuyu, 2022). Moreover, the rapid advancement of chatbots outpaces the ability of many media professionals to learn and adapt to these new technologies. For example, in Kenya, while larger organisations like Nation Media Group are investing in AI tools for content analysis and distribution, smaller newsrooms struggle to provide basic digital literacy training for their staff (Ruhanga, 2022). Another challenge is that most chatbot models, including natural language processing tools like ChatGPT, are optimised for English and other global languages. In many African countries, journalists work in a multilingual environment where local languages are essential for news coverage. Current AI models often do not adequately support these languages, creating significant barriers to adoption in African newsrooms (Mutahi & Kimuyu, 2022).

2.8.4. Financial Constraints

African newsrooms often face significant financial pressures, operating on limited budgets that restrict their ability to invest in AI-driven technologies. This is a stark contrast to many Western media organisations that have the resources to invest in AI innovation, research, and infrastructure. Due to financial constraints, many African news organisations cannot afford the high cost of implementing AI systems, which often require investment in both hardware and software, as well as in training and maintenance (Fourie, 2019). In a financially precarious environment, newsrooms may prioritise survival over innovation, relegating AI adoption to a lower priority. In Nigeria, despite the promise of AI tools to help streamline news production, the majority of news organisations rely on low-cost, low-tech solutions, which hampers their ability to innovate (Ogunleye, 2021). Beneficially, AI-powered personalisation tools,

which are common in Western newsrooms, are often used to increase reader engagement and, by extension, advertising revenue. However, the digital advertising ecosystem in Africa is underdeveloped, limiting the potential financial returns from AI investments (Steenveld & Strelitz, 2020).

2.8.5. Data Privacy and Security Concerns

Another major challenge is related to data privacy and security. AI tools often require access to large datasets for training and operational purposes, raising concerns about how this data is collected, stored, and used. Although some African countries have implemented data protection laws, these regulations are often not robust enough to govern the ethical use of AI in newsrooms (Pasquale, 2015). In countries like Nigeria and Kenya, there are ongoing concerns about how data collected by AI systems, especially chatbots, could be exploited or misused (Mutahi & Kimuyu, 2022). Kenya has implemented a Data Protection Act, but there is still a need for AI-specific regulations that ensure transparency and accountability in how chatbots use personal data (Ruhanga, 2022).

2.8.6. Ethical and Cultural Challenges

Chatbots often lack the cultural nuance necessary to report accurately on sensitive issues in African societies. This creates the risk of producing content that is either culturally insensitive or biased. AI systems are often trained on datasets that reflect Western values, norms, and biases. When deployed in African contexts, these biases can be problematic, leading to skewed news reporting. This is particularly concerning when AI-generated content is perceived as neutral or objective, when in fact it may carry embedded biases (Pasquale, 2015). For example, in Tunisia, where AI is being adopted by media startups like Meshkal, concerns have been raised about how AI tools might misrepresent local contexts due to their reliance on datasets that are not tuned to regional realities (Zitouni & Ghedira, 2021). Moreover, chatbots like ChatGPT might struggle to navigate culturally sensitive topics, particularly those related to ethnicity, religion or politics. African newsrooms need AI systems that can be adapted to local contexts to avoid miscommunication or exacerbation of social tensions (Fourie, 2019).

Conclusion

The unique challenges that African newsrooms face in integrating AI tools like ChatGPT are deeply rooted in infrastructural, technological, financial, and ethical issues such as unreliable internet access and power

supply, combined with financial constraints and digital literacy gaps, significantly impede the adoption of AI technologies in African journalism. Moreover, concerns related to data privacy, bias, and cultural sensitivity further complicate the integration of AI into African newsrooms. Addressing these challenges will require a multi-faceted approach, involving investment in digital infrastructure, capacity-building initiatives, and the creation of localised AI models that are sensitive to Africa's linguistic and cultural diversity. Additionally, robust regulatory frameworks that address the ethical implications of AI in journalism must be developed to ensure that AI tools are used responsibly and transparently across the continent.

2.9. The Impact of Chatbot-Generated Content on Audiences and Public Trust

AI-generated content is increasingly becoming part of the global news ecosystem, influencing how audiences consume and engage with information. The rise of chatbots such as ChatGPT has sparked debates about the implications for journalistic integrity, accuracy, and public trust. In the African context, these concerns are further compounded by existing challenges such as media credibility, infrastructural gaps, and the digital divide. This analysis explores how AI-generated content impacts audiences, particularly African audiences, and its broader societal implications.

2.9.1. Audience Perceptions of AI-Generated News Content in Africa

African audiences are becoming more familiar with Chatbot-generated content, although awareness of the technology's involvement in news production remains relatively low in some regions. However, as more newsrooms in countries like South Africa, Kenya, and Nigeria integrate AI tools into their operations, perceptions are evolving, including audience skepticism. African audiences, like many others globally, tend to be wary of content produced by machines. A survey conducted in Kenya revealed that 65% of respondents expressed concerns about the accuracy and reliability of chatbot-generated news stories, because they lacked the human element that audiences traditionally associate with trust (Mutahi & Kimuyu, 2022). Chatbots like ChatGPT, which generate automated stories, can sometimes produce content that appears impersonal, which may erode trust in news outlets using such tools. For example, in South Africa, where AI tools are used for routine news updates, audience feedback has shown a preference for human-authored stories, especially for sensitive topics like politics and social justice (Fourie, 2019). Furthermore, many African audiences are unaware when content has been generated by AI rather than human journalists. This lack of transparency raises ethical questions about whether

audiences have the right to know who—or what—is behind the news they consume (Ruhanga, 2022). In cases where newsrooms do not disclose the use of AI, this could lead to a further erosion of trust if audiences later discover that their news content was AI-generated.

2.9.2. Impact on Public Trust in News Media

Public trust in media is already a pressing issue in many African countries, where political interference, misinformation, and low journalistic standards have contributed to declining trust. The introduction of AI into the newsroom can have mixed effects on this fragile relationship. AI-generated content can increase efficiency in news production by automating tasks such as summarising reports or generating routine updates. However, this increased efficiency comes at the cost of perceived authenticity. Many African audiences, who value the role of journalists as watchdogs and truth-tellers, may feel disconnected from chatbot-generated news, which can seem more mechanical and less empathetic (Fourie, 2019). The lack of human involvement in story creation may lead to the perception that news outlets prioritise cost-cutting over quality, further damaging trust. On the flip side, AI tools are being used effectively to combat misinformation, especially during sensitive periods like elections. In Kenya, AI-driven systems were used to track and flag fake news circulating on social media during the 2022 elections (Ruhanga, 2022). This has had a positive impact on public trust in certain news outlets that deploy AI responsibly, as they are seen as taking proactive steps to ensure accuracy.

2.9.3. Societal Implications of Increased AI Use in Journalism, Particularly in the African Context

The societal implications of AI use in journalism, especially in Africa, are multifaceted, affecting everything from media pluralism and access to information, to employment in the journalism sector. As AI tools become more sophisticated, the risk of job losses in the journalism sector increases. In Africa, where job opportunities in the media are already limited, the fear of AI-driven automation replacing human reporters is real (Ogunleye, 2021). However, chatbots like ChatGPT are currently best used as complements to, rather than replacements for, human journalists. The ideal scenario is one in which chatbots like ChatGPT handle repetitive tasks, freeing up journalists to focus on investigative reporting and more complex stories. Additionally, in countries with limited media diversity, AI-driven news outlets could contribute to media pluralism by enabling smaller newsrooms to produce more content with fewer resources. This could democratise access to information, particularly in rural or underserved areas where local journalism struggles to survive. In Nigeria, for example, chatbots were being used by Premium Times

to generate localised content, which has helped expand their coverage to areas previously under-reported (Ogunleye, 2021). Chatbots like ChatGPT are often trained on datasets that reflect existing social biases, which can perpetuate stereotypes or marginalize certain groups. In the African context, where issues of ethnic, racial, and cultural representation are already sensitive, the risk of AI amplifying these biases is a major concern (Pasquale, 2015). For example, chatbots trained on Western datasets may not accurately capture the nuances of African cultures, leading to misrepresentation or biased reporting.

For example, in Tunisia, where chatbots were being adopted by media startups, there have been concerns about how AI might perpetuate Western-centric narratives that fail to resonate with local audiences (Zitouni & Ghedira, 2021). However, while AI has the potential to democratise content production, there is also the risk of widening economic inequality. Newsrooms that can afford to invest in AI technologies may outcompete smaller, resource-poor media organisations, exacerbating the digital divide in African journalism. This could lead to a consolidation of media ownership, with AI-powered newsrooms dominating the market while smaller players struggle to survive (Steenveld & Strelitz, 2020).

2.9.4. Trustworthiness of AI-Generated News in Africa: Case Studies

Kenya's Election Coverage:

During Kenya's 2022 elections, several media organisations used AI to help combat misinformation on social media. AI systems flagged fake news stories for human journalists to verify. This collaboration between AI and journalists increased public trust in the media outlets that took proactive steps to address misinformation. However, some skepticism remained, as audiences were unclear about how much of the news they were consuming was chatbot-generated (Ruhanga, 2022).

Nigeria's Media Engagement with AI:

In Nigeria, The Punch uses AI chatbots to interact with readers in real-time. Audience feedback has shown that while chatbots are appreciated for delivering news quickly, there is still a preference for human interaction when it comes to complex or emotionally charged stories (Ogunleye, 2021). This illustrates that while AI can improve engagement, it does not necessarily replace the human element that builds trust.

2.9.5. Future Implications: How AI Could Reshape Public Trust

Looking to the future, the continued integration of AI in journalism could reshape public trust through:

i. **Transparency and Disclosure:** News organisations will need to be transparent about their use of AI. This could involve clearly labeling AI-generated content and explaining the role chatbots play in the newsroom. African audiences value transparency and may be more accepting of AI-driven content if they understand its role in the production process (Pasquale, 2015).

ii. **Human-AI Collaboration:** The key to maintaining public trust may lie in the collaboration between human journalists and chatbots like ChatGPT. In this model, AI handles the tasks it excels at, such as data analysis and content generation, while human journalists provide oversight, editorial judgment, and the emotional intelligence needed to tell compelling stories. This balance could enhance both the speed and quality of news production, thereby improving audience trust over time (Mutahi & Kimuyu, 2022).

Conclusion

The impact of AI-generated content on audiences and public trust in Africa is complex and multifaceted. While chatbots offer the potential for increased efficiency, personalised content, and the ability to combat misinformation, it also raises concerns about transparency, authenticity and bias. African audiences, who already grapple with issues of media credibility, may become more skeptical of AI-generated content, particularly if it is perceived as lacking the human element that underpins journalistic trust. For AI to be successfully integrated into African newsrooms, it will be crucial for media organisations to be transparent about its use, ensure that human journalists remain central to the news production process, and address the ethical implications of chatbot-driven reporting.

2.10. Role of AI ChatGPT and other chatbots in television news production and anticipated effects on Democracy in Namibia

The incorporation of chatbots like ChatGPT into television news production represents a significant technological advancement with profound implications for democracy in Namibia. These tools have the potential to transform how news is created, disseminated, and consumed, with effects on public discourse, misinformation, and citizen engagement.

2.10.1. AI in Namibian Newsrooms: Case Studies, Cultural Factors, and Impacts on Democracy

AI tools such as ChatGPT are gradually finding their way into newsrooms around the world, including Namibia. While Namibia is still in the early stages of widespread AI adoption, the potential impact of AI on news production and democracy is already becoming evident. This section will explore specific case studies from Namibia, compare the country's situation with other nations in the Global South, and delve into the cultural, societal, and technological challenges affecting the adoption and perception of AI tools like ChatGPT in Namibian news production.

1. AI Adoption in Namibian Newsrooms: Case Studies from NBC

The NBC, the country's largest broadcaster, has begun experimenting with tools like ChatGPT in content creation and newsroom management. This is a part of broader global trends to streamline news production processes and enhance efficiency. At NBC, ChatGPT has been tested in:

- i. **Automated News Summaries:** NBC has started to experiment with ChatGPT to automatically generate news summaries and briefs, reducing the time it takes journalists to compile short updates. This has proven useful during major events, such as the 2024 Namibian Presidential elections, where real-time reporting was required.
- ii. **Translation Services:** Namibia is a multilingual country, and chatbots like ChatGPT are being tested for automated translation of news content between English and indigenous languages such as Oshiwambo and Afrikaans. This could make news more accessible to a broader audience, especially in rural areas where indigenous languages dominate (Tjirera, 2023).
- iii. **AI-Assisted Fact-Checking:** NBC has also explored using AI tools for fact-checking and verifying information from sources. AI is particularly useful in election coverage, where speed and accuracy are critical. AI-driven fact-checking tools are being integrated to assist journalists in verifying political claims during live debates and interviews (Shikongo, 2022).

2.10.2. Cultural and Societal Influences on AI Adoption in Namibian Newsrooms

Cultural and societal factors play a significant role in shaping the adoption and effectiveness of AI in news production. Namibia's diverse cultural landscape, and this complexity can pose challenges for AI-driven

content creation. AI systems like ChatGPT, which are trained on vast datasets, may not always understand the nuances of Namibia's various cultural groups. For instance, automated content generation might unintentionally overlook important cultural symbols or language idioms, which are crucial for connecting with specific audiences (Mbambo, 2023). In one instance, NBC's use of AI to generate local news summaries missed a significant cultural event in the Ovambo community, highlighting the need for human editorial oversight in AI-driven newsrooms.

Public Perception and Trust was highlighted in a study conducted by Namibia Media Trust (NMT), where many viewers expressed concerns about the reliability and objectivity of AI-generated news, fearing it might lack the human touch needed to contextualise stories within local realities (Nekwaya & Likuwa, 2022).

2.10.3. A Comparative Analysis: Namibia vs Other Countries in the Global South

While Namibia's adoption of AI in newsrooms is still developing, other highlighted countries in the Global South offer a broader perspective on the challenges and opportunities AI presents for democracy and media production.

South Africa: South Africa has been more proactive in integrating AI into newsrooms. Large media houses like News24 and eNCA use AI for content recommendation algorithms, video editing, and even AI-generated articles. However, similar to Namibia, South African journalists face concerns about editorial control and the risk of job losses due to AI automation (Fourie, 2021).

Kenya: The Nation Media Group has adopted chatbots for generating sports reports and transcribing interviews. However, technological challenges such as inconsistent internet access and low digital literacy in rural areas create barriers to full-scale implementation. Namibia shares similar infrastructural limitations, which may slow AI adoption in newsrooms (Mutahi & Kimuyu, 2022).

Nigeria: AI use in Nigerian newsrooms has been largely experimental, focusing on automating election reporting and monitoring disinformation. However, the digital divide remains a significant challenge, as rural regions often lack the necessary internet infrastructure to support AI-driven journalism (Ogunleye, 2021). Namibia faces similar challenges in remote areas, where internet access is limited.

2.10.4. Technological Challenges in Implementing AI Tools in Namibia

There are several technological barriers that could impede the successful adoption of AI in Namibian newsrooms:

i. **Digital Divide:** internet access in rural areas is limited, which hinders the widespread adoption of AI tools like ChatGPT. Many rural Namibians rely on radio and traditional TV news for information, and AI-driven innovations may struggle to reach these populations (Tjirera, 2023).

ii. **Infrastructure Limitations:** Namibia's telecommunication infrastructure, though improving, is not yet fully capable of supporting the seamless implementation of advanced AI technologies, especially outside the capital city of Windhoek. Data costs are also prohibitively high for both media companies and audiences in many parts of the country (Shikongo, 2022).

iii. **Digital Literacy:** While urban Namibian journalists may be tech-savvy, many reporters in rural areas lack the digital literacy needed to work with AI tools. This presents a training challenge for media organisations (Mbambo, 2023).

2.10.5. Regulatory Frameworks for AI in Namibian Newsrooms

To ensure responsible and transparent use of AI tools like ChatGPT, Namibia will need to develop specific regulations that address the ethical and legal implications of chatbots in news production. Potential regulations could include but not limited to:

i. **AI Transparency Requirements:** News organisations should be mandated to disclose when content is generated by AI systems. This transparency is crucial for maintaining public trust and ensuring that AI is used ethically (Diakopoulos, 2019).

ii. **Data Privacy Laws:** AI tools often require access to vast amounts of data, raising concerns about privacy and data security. Namibia could look to frameworks such as South Africa's Protection of Personal Information Act (POPIA) as a model for establishing strong data protection regulations that govern AI use in journalism (Fourie, 2021).

iii. AI Accountability and Bias Mitigation: Chatbots like ChatGPT can inadvertently perpetuate biases in reporting. Namibia could establish a regulatory body to audit AI algorithms used in newsrooms, ensuring that they do not contribute to biased or inaccurate news coverage (Pasquale, 2015).

2.10.6. Public Perception and the Future of Democracy in Namibia

The Namibian public's perception of AI in news production will be shaped by trust in the technology and its alignment with democratic values. AI's role in generating news content raises several questions regarding its impact on the future of democracy:

i. Trust and Authenticity: As AI-generated content becomes more common, maintaining audience trust will be a critical challenge. Many Namibians may be skeptical of AI-generated news, preferring human reporters who can interpret local contexts and provide more relatable insights (Nekwaya & Likuwa, 2022). This underscores the need for transparency and continued human oversight in AI-augmented newsrooms.

ii. Impact on Democracy: The increasing use of AI in news production could both strengthen and challenge democracy in Namibia. On one hand, AI could democratise access to information, making it easier to disseminate news across diverse regions and languages. On the other hand, if AI systems amplify existing biases or create echo chambers, they could weaken democratic debate (Diakopoulos, 2019).

iii. Risks and Benefits: Without proper regulations, AI-generated content could be misused for spreading disinformation or propaganda, potentially undermining free and fair elections. However, AI can increase the efficiency and reach of news reporting, providing more timely and accurate information during critical democratic events like elections, thereby enhancing public participation.

Anticipated Effects of Chatbot-generated Television News on Democracy in Namibia

Namibia's linguistic diversity is a significant factor in AI's potential for news production, as the country recognises at least 30 languages, with English as the official language alongside widely spoken indigenous languages such as Oshiwambo, Khoekhoegowab, Afrikaans, and Otjiherero (Mesthrie & Bhatt, 2016; Simasiku et al., 2015). The need for multilingual AI systems is particularly relevant, as local audiences benefit from news presented in languages they understand best, enhancing both reach and inclusivity (Marwala & Hurwitz, 2021; UNESCO, 2019). As NLP and AI systems are adapted to Namibia's linguistic

landscape, they may better cater to diverse populations, reinforcing the importance of AI tools tailored to local linguistic needs (Chakravorti, 2020; Simasiku et al., 2015) for the following results:

Informed Citizenry - A well-informed public is a cornerstone of a healthy democracy. By improving the efficiency, accuracy, and accessibility of news, AI can contribute to a more informed citizenry in Namibia (NBC, 2023). When citizens are equipped with reliable and timely information, they can make more informed decisions during elections, census and other democratic processes.

Enhanced Public Discourse – chatbots like ChatGPT's ability to generate diverse content can lead to a richer and more balanced public discourse. By ensuring that various perspectives are represented in the media, AI ChatGPT can contribute to a more inclusive and democratic debate on key issues (Schwartz, 2022). This inclusivity is vital for the health of democracy, as it ensures that different viewpoints are considered and discussed in the public sphere.

Combating Misinformation - The proliferation of misinformation is one of the most significant threats to democracy today. Chatbots' role in fact-checking and verifying information can help mitigate this threat by ensuring that only accurate and reliable news is disseminated to the public (Moravec et al., 2019). This capability is crucial for maintaining the integrity of democratic processes, as misinformation can lead to misinformed decisions and a polarised society.

Risk of Bias and Manipulation -Despite its potential benefits, the use of chatbots like ChatGPT in news production also presents risks. AI algorithms can unintentionally perpetuate existing biases or be manipulated to serve specific agendas, which could undermine public trust in the media (Bock, 2021). If AI tools are not used transparently and ethically, they could contribute to the spread of biased or manipulated information, negatively impacting democratic processes.

Content Creation and Efficiency - AI ChatGPT can be utilised to automate various aspects of news production, such as drafting scripts, generating headlines, and summarising complex stories. This capability allows journalists to allocate more time to investigative reporting and other in-depth journalism activities, thereby enhancing newsroom efficiency (). The ability of AI to quickly generate content helps broadcasters keep pace with the 24-hour news cycle, ensuring that the public receives timely updates on important events.

Research and Fact-Checking - AI ChatGPT can significantly enhance the accuracy and reliability of news by assisting in fact-checking and source verification. ChatGPT can quickly cross-reference facts, verify data, and ensure the accuracy of information before it is broadcasted, reducing the risk of disseminating misinformation (Bock, 2021). This role is critical in maintaining public trust in the media, especially in an era where fake news is a growing concern.

Audience Engagement and Personalisation - AI can analyse audience data to tailor news content to the preferences and interests of different demographic groups. By personalising news segments, broadcasters can increase viewer engagement and ensure that content is relevant to a broader spectrum of the population (Schwartz, 2022). This targeted approach not only enhances viewership but also ensures that diverse groups within society are adequately informed.

Language Translation and Accessibility - Given Namibia's linguistic diversity, AI ChatGPT can play a crucial role in making news accessible to all citizens. It can facilitate real-time translation and subtitling of news broadcasts, breaking down language barriers and ensuring that crucial information reaches all segments of society (Zambia, 2023). This capability is essential for fostering an inclusive democracy where all voices can be heard and informed.

Conclusion: The Future of AI in Namibian Newsrooms

The future of AI in Namibian journalism will be shaped by how well the country navigates the cultural, technological, and regulatory challenges outlined above. With proper training, infrastructure investment, and transparent AI regulations, Namibia can harness the benefits of AI to enhance its media landscape and support democratic governance. However, the use of AI must be carefully managed to avoid risks related to bias and manipulation that could undermine democratic values.

2.11. The Theoretical Framework guiding the study: Automation and Media Convergence Theory

The theoretical framework introduces and describes the theory that explains why the research problem under study exists. For this study, the Automation and Media Convergence Theory serves as a lens to understand the integration of AI technologies like ChatGPT, into television news production processes. This theory by Dal Zotto & Lugmayr (2016), Brautović (2009), and Appelgren (2007), posits that the integration of information and communication technologies (ICTs) leads to the convergence of media platforms and the automation of production tasks, thereby reshaping traditional media practices and

consumption patterns. In the context of television news production, the theory explains how chatbots can automate various aspects of media production. For example, ChatGPT streamlines content creation by generating script drafts, summarising research literature, and assisting in fact-checking tasks, thereby enhancing efficiency and productivity in newsrooms (Johnson, 2023; Kotenidis et al., 2022; Sirén-Heikel et al., 2023). This automation of routine tasks allows journalists and producers to focus more time to value-added activities such as in-depth analysis, investigative reporting, and editorial decision-making. Moreover, the Automation and Media Convergence Theory underscores the convergence of traditional television broadcasts and online platforms, facilitated by AI integration. Chatbots like ChatGPT's capability to generate personalised news recommendations and tailored content delivery blurs the boundaries between traditional television broadcasts and online news platforms, offering viewers a more interactive and engaging news consumption experience (Al Adwan, 2023; Møller, 2022). However, alongside the potential benefits of automation and convergence facilitated by chatbots, the theory also emphasises the continued significance of human involvement and critical thinking in ensuring quality and ethical standards in television news production. While AI tools can automate certain aspects of content creation and dissemination, human journalists and producers play a vital role in contextual understanding, ethical considerations, and the ability to interpret and analyse complex information (Danzon-Chambaud & Cornia, 2023; Dhiman, 2023; Lewis, Guzman & Schmidt, 2019). Human involvement is indispensable for maintaining editorial integrity, ensuring accuracy, and upholding journalistic standards amidst AI-driven automation. Journalists provide the necessary oversight and critical thinking to evaluate the relevance, credibility, and ethical implications of AI-generated content, thereby safeguarding the quality and integrity of television news production.

2.11.1. Historical Overview of Automation and Media Convergence

Automation and media convergence have been evolving steadily, shaping the way content is produced and disseminated. Media convergence refers to the merging of traditional media platforms (like print, TV, and radio) with digital media technologies, allowing content to be distributed across multiple platforms (Jenkins, 2006). Automation in media began with the advent of teletypes in newsrooms, evolved through the introduction of computerised editing systems in the 1970s, and then to digital media management systems in the late 1990s. By the 21st century, automation technologies had significantly impacted news production, enabling faster editing, more efficient scheduling, and broader content distribution. Media convergence, meanwhile, facilitated cross-platform journalism, allowing news content to be shared on TV, radio, websites, and social media platforms simultaneously. These innovations have led to the

integration of AI tools like ChatGPT, which are now becoming essential in automating tasks such as writing news summaries, captioning videos, and even generating entire news articles (Diakopoulos, 2019).

2.11.2. Case Studies of AI in Television News Production

ChatGPT and other AI chatbots have begun to revolutionise television news production by automating various tasks, with a few examples:

BBC News

The BBC has used AI tools to automate the generation of personalised news content, particularly in regional languages. For instance, the BBC's newsroom has integrated AI-driven summarisation tools that condense complex reports into simpler news briefs, providing audiences with more accessible information (Thompson, 2020). The organisation has seen success in improving audience engagement, particularly in non-English-speaking regions where AI-generated summaries make content more digestible (Newman, 2023). However, challenges persist, including maintaining editorial accuracy, ensuring AI-generated summaries capture nuance, and addressing concerns about potential biases (Thompson, 2020). The BBC employs a combination of publicly available AI models and proprietary in-house solutions tailored to its editorial standards and linguistic needs (Thurman, 2022).

Bloomberg

Bloomberg has adopted AI chatbots, including GPT-powered systems, to assist in reporting on financial markets. These AI systems quickly generate real-time summaries and analysis of stock market trends, freeing up human reporters to focus on in-depth journalism (Diakopoulos, 2019). The integration of AI has significantly enhanced Bloomberg's ability to deliver breaking financial news with speed and precision (Schroeder, 2021). However, a key challenge lies in verifying AI-generated reports, as financial news requires high accuracy and contextual awareness to avoid misinterpretation (Lewis, 2022). Bloomberg addresses these concerns by maintaining human oversight and continuously refining AI models to improve their reliability (Diakopoulos, 2019).

NBC (USA)

NBC uses AI tools such as transcription services and video captioning systems to automate workflows, ensuring timely news coverage. During the U.S. elections, AI-assisted fact-checking systems helped NBC

journalists verify claims made during live broadcasts (Knight Foundation, 2021). This technology has enhanced the speed and efficiency of news verification, reducing the spread of misinformation (Graves & Wells, 2022). However, AI fact-checking tools are still developing and can struggle with detecting deepfake content or understanding nuanced political rhetoric (Molina et al., 2021). NBC continues to refine its AI capabilities, combining automated tools with human fact-checkers to ensure credibility and accuracy (Knight Foundation, 2021).

These examples show that AI, including chatbots like ChatGPT, is transforming newsrooms globally, allowing media organisations to scale up production while maintaining accuracy and timeliness.

2.11.3. Challenges and Limitations of Automation and Media Convergence Theory

Despite the benefits, there are challenges and limitations when applying Automation and Media Convergence Theory to real-world scenarios, including.

Balancing Automation and Human Oversight: Automation can handle routine tasks like transcription and summarisation, but the absence of human judgment can lead to problems with context, nuance, and ethical considerations. For example, AI-generated content might inadvertently spread misinformation, as algorithms cannot always detect subtleties in political or cultural contexts (Tandoc et al., 2021). Another case example was in 2020, when an AI system at Reuters misinterpreted financial data, publishing an inaccurate report that led to a brief panic in the markets before human editors corrected the mistake. This incident highlighted the limitations of full automation without human oversight (Reuters, 2020).

Resistance from Traditional Journalists: Many journalists view AI as a threat to their jobs and the integrity of journalism. Traditional reporters, especially those in developing regions, often resist automation because they fear that chatbot-generated news will lack the ethical rigor and investigative depth of human-driven journalism (Tandoc et al., 2021). This resistance is particularly strong in countries where journalism plays a crucial role in democratic governance, and AI might be seen as undermining this role.

Ethical Concerns: Algorithms may prioritise sensationalism or clickbait to boost viewer engagement, compromising journalistic standards of accuracy and objectivity (Diakopoulos, 2019). Additionally, AI systems could inadvertently perpetuate biases in reporting, especially if trained on datasets that contain biased information (O'Neil, 2016).

Global Perspective: In China, for example, state-controlled media have adopted AI-driven news anchors, generating concerns about AI being used for propaganda purposes. AI-generated news in this context may exacerbate government censorship and reduce media independence (Qiang, 2019).

2.11.4. Future Implications of Automation and AI Integration

As AI continues to advance, its role in television news production will likely expand, further transforming the industry. Future developments in AI could enable even more sophisticated tools, such as AI-generated video news reports or virtual anchors, which would automate nearly the entire production process. These innovations will present new ethical challenges and dilemmas, like loss of Editorial Control. If chatbots are responsible for curating and generating a majority of the content, the risk of misinformation, bias, and algorithmic manipulation could rise (Tandoc et al., 2021). Media organisations will need robust checks and balances to ensure that chatbots adhere to journalistic standards. Moreover, as AI becomes more integrated, journalists will need to redefine their roles. The future journalist will likely act as an AI "editor," overseeing the work of automated systems and ensuring that AI-generated content aligns with ethical standards. This shift will require extensive retraining and upskilling (Diakopoulos, 2019). Ethical dilemmas and issues of accountability will become more pressing. Who is responsible when AI generates biased or misleading content? These dilemmas are likely to intensify as AI takes on more editorial roles in newsrooms.

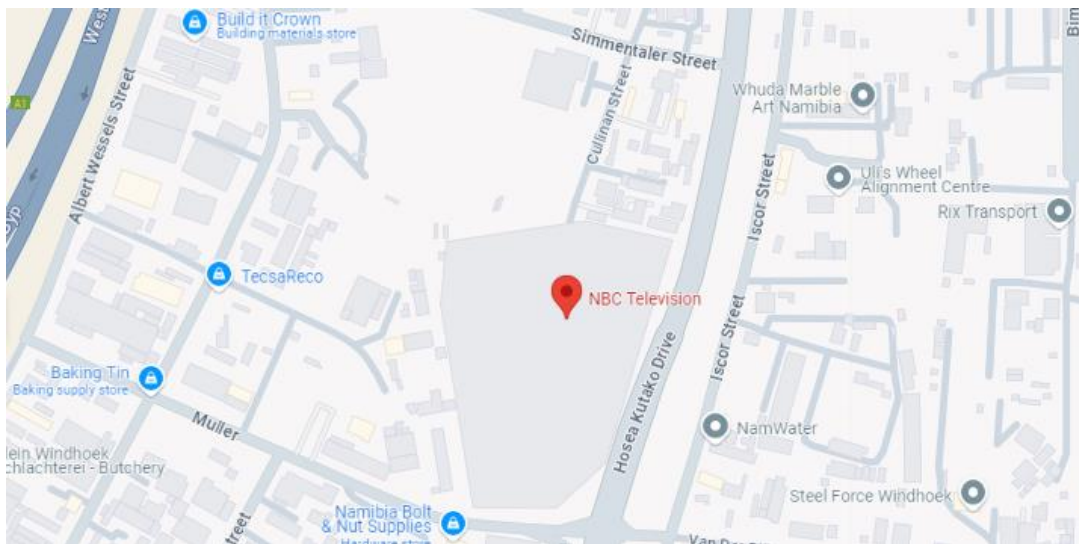
2.11.5. Conclusion: A Global Perspective on AI Integration in News Production

In the European Union, policymakers have already begun drafting regulations to ensure that AI in media is used responsibly. The EU's Artificial Intelligence Act includes provisions for transparency, bias mitigation, and accountability in AI-generated media content (EU Commission, 2021). In contrast, many countries in the Global South, including Asia and Africa, AI is often integrated into state-controlled media for efficiency but raises concerns over censorship and bias. In Africa, where media organisations face technological challenges such as limited internet access and digital literacy, AI adoption is still in the early stages of developing regulations, potentially leaving gaps in oversight and ethical governance. In summary, the Automation and Media Convergence Theory expounds on how technological advancements like ChatGPT, automate various aspects of media production while stressing the ongoing importance of human involvement and critical thinking in ensuring quality and ethical standards in television news production. By understanding this dynamic interplay between technology and human agency, media

practitioners can leverage the potential of AI tools like ChatGPT while upholding the principles of responsible journalism and ethical conduct.



Figure 2. (Above): NBC Broadcasting Centre in Windhoek. Source: Nbc official website. **Figure 3. (Below):** Google Maps directions: NBC.



CHAPTER THREE

3. Research Methodology

3.1. Introduction

This chapter details the research methodology adopted to examine the effects of AI ChatGPT on television news production at the NBC. The chapter outlines the research philosophy, approach, sampling method, data collection techniques, and data analysis procedures used in this study.

3.2 Research Philosophy

This study utilised an interpretivist philosophy to comprehend the perceptions and experiences of television newsroom journalists using chatbots like ChatGPT for news production at NBC and their challenges. The interpretivist philosophy focuses on understanding the subjective experiences and interpretations of individuals within specific social contexts (Schwandt, 2000). In the case of studying the effects of AI on newsroom practices, an interpretivist approach allows researchers to delve into the lived experiences of journalists as they interact with AI technologies such as ChatGPT. It emphasizes the importance of context, meaning, and the social dynamics that influence how journalists perceive and integrate AI into their workflows. This perspective is particularly relevant in the rapidly evolving landscape of media where technology is reshaping traditional practices. As stated by Denzin and Lincoln (2011), interpretivist approaches enable researchers to "gain insights into the meanings that individuals assign to their experiences." By focusing on journalists' perceptions, researchers can explore the nuanced effects of AI tools on their roles, ethics, and practices.

The integration of AI into newsroom practices involves social dynamics, power relations, and cultural contexts. An interpretivist and qualitative approach allows researchers to explore how these factors shape the acceptance and resistance to AI technologies among journalists. By examining the interactions between journalists chatbots, researchers can uncover insights about the ethical implications, concerns about job security, and the overall impact on journalistic integrity. As highlighted by Gubrium and Holstein (2002), qualitative research provides a lens to understand "the social construction of reality," which is vital for exploring how journalists negotiate their roles in an AI-enhanced environment.

Conclusion

In summary, the choice of interpretivist philosophy and qualitative approach is justified by the need to understand the complex, subjective experiences of journalists interacting with AI technologies like ChatGPT. These methodologies provide rich, context-sensitive insights into the evolving dynamics of newsroom practices, making them particularly suitable for studying the effects of AI in this field.

3.3. Research Approach

A qualitative research approach was employed to gain an in-depth understanding of journalists' perceptions, experiences, and practices (Ocaña & Opdahl, 2022). This approach enables close researcher involvement, allowing for the uncovering of issues often overlooked in quantitative studies. The qualitative method is particularly suited to exploring the nuanced and complex nature of the interaction between journalists and AI tools like ChatGPT. Qualitative research methodologies, including interviews and focus groups, are well-suited for capturing the complexity of human experiences in natural settings (Creswell, 2013). This approach allows researchers to collect rich, detailed data on how journalists utilize AI technologies, the challenges they face, and the impacts on their professional practices. Qualitative methods facilitate open-ended questioning, enabling participants to express their thoughts and feelings about AI in their own words, which is crucial for understanding the depth of their experiences. According to Patton (2015), qualitative research is "especially useful for capturing the intricacies and nuances of human behavior and social phenomena," making it ideal for exploring how AI tools influence journalism on multiple levels.

AI technologies are implemented differently across various regions and media organisations, influenced by factors such as infrastructure, culture, and socio-political contexts. A qualitative approach allows for comparative analyses of these contextual differences, offering insights into how local circumstances affect the integration of AI in journalism. This understanding is critical for developing tailored recommendations that address the unique challenges faced by different newsrooms. As noted by Babbie (2015), qualitative methods are "flexible and adaptive, allowing researchers to respond to the specific contexts and circumstances of their studies," which is essential in a field as dynamic and context-dependent as journalism.

Sampling Method

The sample consisted of fifteen (15) journalists from NBC's television news production section, chosen through *purposive sampling*. Purposive sampling is a non-probability sampling technique where a

researcher deliberately selects participants based on specific characteristics or criteria relevant to the study's objectives, essentially choosing individuals 'on purpose' who are considered most informative for the research question, rather than randomly selecting them. Purposive Sampling enhanced the credibility and relevance of the findings by ensuring that participants were selected based on their direct experiences with chatbots like ChatGPT in their daily work. To enhance the validity of the findings, the sample of 15 participants were selected to represent a diverse cross-section of roles and experience levels within the newsroom. This sample included journalists from various functions, such as editors, reporters, producers, digital content managers, and senior managers who each brought unique perspectives on AI integration in news production and a comprehensive view of how AI affects the entire production pipeline, from content creation to editorial oversight and final production, as well as different levels of experience with AI, ranging from novices to those with moderate and advanced familiarity. Journalists who have used AI tools discussed practical challenges and efficiency gains, while those less familiar highlighted initial concerns, training needs, lack of equipment and resistance. This diversity in roles and AI experience strengthened the study's validity by ensuring that findings reflect a range of perspectives, making the conclusions more generalisable to the broader media landscape.

3.5 Data Collection

Data collection was conducted through face-to-face semi-structured interviews. This method was chosen to gather journalists' experiences working with AI ChatGPT in the newsroom. Semi-structured interviews allow for flexible, open-ended questions, providing the opportunity for participants to share their thoughts and experiences in depth. This approach ensures that the interviews can adapt to the flow of conversation, encouraging participants to elaborate on their responses and provide comprehensive insights

Challenges Encountered During Data Collection

The data collection process faced several challenges that could potentially impact the reliability and depth of the findings. One prominent issue was potential biases, particularly in participants' responses. Given the sensitive nature of AI adoption in journalism, some participants hesitated to openly discuss their reliance on ChatGPT, possibly due to the stigma associated with its use for news generation or concerns about job security. To mitigate this, the interviews were conducted in a non-judgmental manner, ensuring confidentiality and emphasizing the study's academic purpose to encourage candid responses (Creswell & Creswell, 2018).

Face-to-face interviews posed additional challenges. Scheduling conflicts were frequent due to the participants' busy newsroom schedules around the Presidential and National Assembly elections which took place on 27 November 2024, leading to some interviews being delayed or conducted in a rushed manner. Where face-to-face interviews were impractical, alternative methods such as video calls and audio voice notes on WhatsApp were used, ensuring continuity in data collection while maintaining participant engagement (Opdenakker, 2006).

To enhance the reliability and validity of the findings, data triangulation was employed. Interview data were supplemented with observational data gathered during visits to NBC newsroom, where workflows and AI integrations were observed in real-time and noted in a note pad. Additionally, document analysis of internal policies, such as drafts of NBC's AI framework, provided contextual understanding and corroborated interview responses. This mixed-method approach helped reduce potential biases and offered a holistic view of the integration of AI technologies in NBC newsrooms (Denzin, 2017).

By addressing these challenges and incorporating multiple data sources, the study ensured a robust and comprehensive analysis of the impact of AI on news production at NBC Television in Namibia.

3.6 Data Analysis

Qualitative Content Analysis was employed for data analysis to understand how AI ChatGPT influences the information presented to viewers and the overall production process. Content Analysis involves systematically categorising and interpreting textual data to identify patterns, themes, and meanings. This method was used to examine the effects of ChatGPT on aspects of news accuracy, quality, and objectivity, providing insights into the role of AI in shaping news content. The analysis focused on identifying key themes and patterns in the journalists' perceptions and experiences, allowing for a comprehensive understanding of the impact of AI ChatGPT on television news production.

3.7 Ethical Considerations

Ethical considerations were paramount in this study. An ethical clearance certificate was obtained through the Higher Degrees Committee of the Namibia University of Science and Technology. Informed consent was obtained from all participants, ensuring they were fully aware of the study's purpose and their right to withdraw at any time without consequences. Confidentiality and anonymity were maintained to protect the participants' identities and the information they provided. However, it is worth noting that

some of the participants were not anonymous, as they have given permission for their details and photos to be used in the study. Additionally, all participants were firstly asked for recording permission and later for permission to use the recordings for publications, including the photos used in this thesis.

3.8 Limitations

While this study aimed to provide valuable insights into the impact of AI ChatGPT on television news production, it is limited by its sample size and scope. The findings may not be generalisable to all journalists or news organisations. However, the in-depth qualitative approach ensured that rich, detailed data was collected, offering significant contributions to understanding the specific context of NBC.

3.9 Conclusion

This chapter has outlined the research methodology employed to examine the effects of AI ChatGPT on television news production at NBC. By adopting an interpretivist philosophy, utilising a qualitative approach, and employing purposive sampling, this study provided a comprehensive understanding of the perceptions and experiences of journalists. The subsequent chapters will present the findings and discuss their implications for the role of AI in television news production at NBC.

CHAPTER FOUR

4. Results and Discussion

4.1. Introduction

This chapter presents the findings and discussions of the study, focusing on the transformative effects of artificial intelligence (AI), particularly AI chatbots on television news production and audience engagement at NBC. The chapter explores the perspectives of the fifteen (15) participants sampled for this research, representing a diversity of newsroom roles, professional experiences, and familiarity with AI technologies. By examining the data gathered through interviews and content analysis, this chapter examines the ways AI is reshaping journalistic practices, enabling personalised audience engagement, and navigating the linguistic diversity characteristic of African newsrooms, through semi-structured face-to-face questions. The analysis is structured around key themes identified during the research process, including the operational integration of chatbots like ChatGPT in television news workflows, the use of chatbots in bridging the gap between newsrooms and audiences, and the ethical and practical challenges associated with AI-driven journalism. These findings are discussed in relation to existing literature, highlighting both the alignment and divergence of this study with prior research on AI's impact on media and communication.

By unpacking these insights, the chapter provides an understanding of how chatbots in the newsroom at NBC is influencing news production and audience interaction, offering a critical lens through which to evaluate its role in shaping the future of journalism in Africa. This sets the stage for the conclusion and recommendations presented in the subsequent chapter.

4.1.1. Overview of participant demographics and study focus

The study sample initially comprised fifteen (15) participants drawn from various roles within television newsrooms in Namibia, representing diverse perspectives on the integration of AI in news production for a comprehensive understanding of the challenges and opportunities associated with AI chatbots, such as ChatGPT, and their applications at NBC television newsroom. However, the number of participants increased by eight (8) more participants bringing the total from fifteen (15) to twenty-three (23) participants. The increase in the number of participants in the study is attributed to several reasons.

Broadening the Scope for Diverse Insights

The initial sample of 15 participants provided valuable insights but revealed gaps in perspectives, particularly in three underrepresented roles of freelancers, technical specialists, and social media managers. Adding more participants aimed to capture a more comprehensive view of how AI integration affects various facets of newsroom operations, to ensure that all relevant voices were included (Chen & Zhang, 2020; Zimba, Banda, & Moyo, 2024).

Inclusion of Emerging Roles and Specialists

As the research progressed, it became apparent that roles such as technical specialists and social media managers played a crucial part in implementing and evaluating AI technologies. Their inclusion helped address specific aspects of AI deployment and its interaction with audience engagement, which might not have been fully represented in the initial sample (Miller, 2020; Van Wyk, 2022; Zhang & Kvale, 2023).

Need for Richer Data

The complexity of the topic, particularly regarding the cultural, ethical, and practical implications of chatbots such as ChatGPT in NBC's newsroom, necessitated additional participants to enrich the dataset to enhance the study's validity by including a broader range of experiences and opinions, particularly from individuals with varying levels of experience and responsibilities within the newsroom.

Participant Availability

Some of the additional participants were initially unavailable to join the study due to the coverage of the Presidential and National Assembly elections held on 27 November 2024 but later became willing to participate, possibly after learning more about the study's purpose and importance.

Recommendations During Data Collection

Participants from the initial sample, especially senior managers recommended colleagues whose roles or expertise contributed significantly to the study. This snowball sampling technique often helps researchers identify key stakeholders who may not have been considered initially (Akwe, 2022; Doshi-Velez & Kortz, 2022).

Addressing Unanticipated Themes

During the initial phases of data collection, this researcher identified emerging themes and challenges that required input from additional roles or perspectives. The role of technical specialists in AI implementation or freelancers' unique challenges surfaced as critical aspects needing further exploration (Chen & Zhang, 2020; Nambala, 2024). For example, when asked if she was one of the aware that NBC wasn't the process of drafting a document that will serve as a framework containing and guidelines for the use of ChatGPT for tasks, Cathy, a freelancer said, *"as a freelancer, I am unaware of it."*

Ensuring Representational Balance

The increase was also an effort to balance the representation of different newsroom roles to prevent bias in the findings and to ensure a more holistic understanding of the effects of AI on news production (Makoni, 2021; Zimba et al., 2024).

This expansion of the participant pool underscores the study's adaptive approach, aiming to provide a nuanced and comprehensive analysis of ChatGPT's impact on television news production at NBC. While the precise gender distribution of the participants was not explicitly detailed in the study, it can be inferred that the sample likely included both men and women to reflect a balanced representation of newsroom professionals. Future research could explicitly capture and analyze gender dynamics in the adoption of AI technologies within the newsroom.

4.1.2. Participants' Age Groups

The participants fell into diverse age groups, broadly categorised based on their professional roles and years of experience.

Senior Managers (4 participants): Over 15 years of experience, likely representing an older demographic, typically aged 40 and above (2 females and 2 males).

Producers (5 participants): With 10–15 years of experience, this group likely included individuals aged 35–45 (3 females, and 2 males).

Editors (4 participants): With more than 15 years of experience, this group also likely fell into the 40+ age category (3 females and 1 male).

Reporters (4 participants): With 8–12 years of experience, these participants were likely aged between 30–40 (2 females and two males).

Freelancers (3 participants): Early career professionals with less than 5 years of experience, likely representing a younger demographic, aged in their 20s to early 30s (2 females and 1 male).

Technical Specialists (2 participants): Their expertise in AI technologies suggests diverse age ranges, possibly in their 30s or 40s, depending on their career paths (both male).

Social Media Manager (1 participant): As the role often attracts younger professionals, this individual was likely in their 20s or 30s (1 male).

In summary, the sample of 23 participants offered a cross-sectional view of the newsroom, with a mix of seasoned professionals in decision-making roles, mid-career journalists handling content creation and quality control, and early-career professionals, particularly freelancers and social media specialists. This diverse composition allowed the study to capture varied perspectives on AI's impact across different newsroom functions.

To that end, at least three participants expressed satisfaction with traditional news tools and indicated a preference for continuing to use them. They believe that relying on AI tools diminishes their creativity and originality, which they value as integral to their journalistic work. However, they wish to eventually embrace the convergence of AI chatbots and traditional news tools in future.

4.2. ChatGPT Adoption and Integration in Television News at NBC

While all participants were based at NBC, their roles reflected both the capital city and regional broadcasting centers, offering insights into varied operational contexts. Specific areas of inquiry included AI in news production, how AI chatbots streamline newsroom workflows, enhance efficiency, and reduce costs, the use of chatbots for scripting, editing, and fact-checking content, audience engagement via social media, linguistic diversity, ethical and practical challenges, risks associated with biases in AI-generated content, and challenges in integrating AI within resource-constrained newsrooms. By analysing participants' perspectives, the chapter aimed to provide an understanding of the potential and pitfalls of AI-driven journalism in Namibia, offering valuable insights for African media landscapes to answer the sub-objectives of this study.

The study found that all 23 participants confirmed the daily use of ChatGPT as a tool in the NBC Television newsroom, with most journalists incorporating it into their workflows for various purposes. These include grammar correction, sub-editing, and transcribing audio to text and vice versa. Despite this reliance, participants emphasized the importance of conducting independent research and background checks before utilizing AI-generated content, particularly in editorial processes. ChatGPT is employed judiciously, with gatekeepers ensuring adherence to journalistic standards and editorial guidelines. Notably, participants stressed that ChatGPT is not intended to replace the originality or creativity of journalists. Instead, it complements their work by enabling faster, more agile, and timely news production. By streamlining tasks, ChatGPT and similar chatbots allow journalists to complete assignments in half the time required by traditional tools, ensuring deadlines are met without compromising quality. Furthermore, ChatGPT is frequently used to generate ideas for story angles and headlines, providing valuable creative support. A report by the (Namibia Media Trust [NMT], 2024) supports these findings, revealing that 73% of journalists in Namibia utilize AI chatbots for professional tasks such as text editing, transcription, translation, news gathering, and content generation (Namibia Media Trust, 2024). This highlights the growing adoption of AI tools in the Namibian media landscape as journalists seek innovative solutions to enhance efficiency and productivity.

4.2.1. Alignment of Findings with Research Sub-Objectives

i. Examine how the use of ChatGPT and other chatbots affect newsgathering processes in television news production, including the efficiency and effectiveness of information collection. AI as a Workflow Enhancer, ChatGPT is widely used for grammar correction, sub-editing, and transcribing audio to text and vice versa, streamlining repetitive newsroom tasks. By automating processes such as fact-checking and content editing, ChatGPT reduces the time required for completing assignments, allowing journalists to meet tight deadlines efficiently without compromising quality. Participants highlighted how ChatGPT enables faster, more agile, and timely news production. These tasks are now completed in half the time required by traditional tools, offering significant productivity gains. The Namibia Media Trust (NMT) reported that 73% of journalists in Namibia use AI tools for tasks such as text editing, transcription, translation, and content generation, underscoring the growing reliance on AI for enhancing newsroom efficiency (Namibia Media Trust, 2024).

For Creative Support for Journalists, ChatGPT assists in generating ideas for story angles and crafting compelling headlines, providing valuable support for creative processes in newsrooms. It complements

rather than replaces journalistic originality, enabling journalists to focus on higher-value tasks such as analysis and storytelling.

ii. Evaluate the challenges posed by ChatGPT and other chatbots on television news content in the African cultural context generation, and their potential to improve the precision and objectivity of news reporting. While ChatGPT effectively supports scriptwriting and fact-checking, participants noted its limitations in processing Namibia's indigenous languages and reflecting nuanced cultural contexts. The chatbot's outputs often lack cultural depth, raising concerns about its ability to authentically represent Namibia's diverse population. With regard to participants expressed concerns about biases inherent in AI-generated content and the risk of producing homogenized or culturally generic outputs that fail to resonate with local audiences. These challenges highlight the need for tailored AI models capable of addressing Namibia's linguistic and cultural diversity. For Improving Precision and Objectivity, ChatGPT contributes to improving precision and objectivity by providing quick access to comprehensive datasets and generating data-driven insights. Gatekeepers play a crucial role in ensuring AI outputs adhere to journalistic standards, mitigating the risks of misinformation and biases in news reporting.

iii. Assess journalists' perceptions and experiences regarding the use of ChatGPT and other chatbots in television news production. Inasmuch as participants have acknowledged the benefits of ChatGPT in fostering creativity and improving productivity, they also expressed mixed perceptions of AI Integration into television news production emphasizing the importance of maintaining editorial independence and conducting independent research to validate AI-generated content. Journalists expressed concern about ethical challenges, such as potential overreliance on AI tools and the erosion of critical editorial oversight in newsrooms. Senior editors and producers emphasized their role and responsibility as gatekeepers to ensure that AI outputs align with NBC's journalistic standards and editorial guidelines. ChatGPT is viewed as a complementary tool rather than a replacement for human expertise in news production.

Moreover, ethical concerns, including biases in AI algorithms and the potential misuse of AI-generated content, were highlighted as significant challenges that must be addressed. Journalists at various levels of experience emphasized the importance of balancing AI integration with the preservation of human creativity and professional standards.

Concerning adapting to AI in the newsroom, freelancers, social media managers, and technical specialists highlighted their role in adapting to AI-driven workflows, indicating a shift in newsroom dynamics toward

greater technological integration. Despite concerns, most participants viewed AI as an enabler of innovation and growth in journalism.

In summary, by addressing these research sub-objectives, the study reveals that while ChatGPT offers significant advantages in enhancing efficiency, creativity, and objectivity in news production, it also presents cultural, linguistic, and ethical challenges. These findings emphasize the importance of balancing AI adoption with strategies that uphold journalistic standards and cultural relevance within Namibian and African contexts.

4.3. Challenges in AI Integration at NBC Television

Despite its many advantages, the integration of ChatGPT at NBC comes with notable challenges that raise concerns about its long-term implications for journalism. One of the primary concerns is the erosion of journalistic integrity due to over-reliance on ChatGPT. This dependency risks promoting complacency among journalists, reducing their initiative to develop original content or engage in investigative reporting. The tendency to rely on AI-generated outputs may lead to repetitive language and a uniformity of style, which undermines the creativity and individuality that are hallmarks of quality journalism. Additionally, errors in chatbot-generated content can be readily identified by discerning audiences, potentially damaging both the credibility of the individual journalist and the institution as a whole. Such mistakes highlight the limitations of AI tools in fully understanding nuanced contexts or complex narratives, reinforcing the need for robust editorial oversight. Moreover, over-reliance on ChatGPT may inadvertently shift journalistic focus from critical thinking and analytical reporting to mere content curation, which risks diminishing the overall quality of news production. As a result, NBC must strike a balance between leveraging the efficiencies of AI tools like ChatGPT and maintaining the core values of journalistic integrity, creativity, and accountability (Dube, 2021; Bock, 2021). This balance requires comprehensive training for journalists on the ethical use of AI, as well as policies that mandate human oversight and contextual understanding in content creation.

4.4. Stigma and Legal Ambiguities

The use of chatbots like ChatGPT for news generation is met with a notable stigma within journalistic circles, including NBC, as many journalists are hesitant to admit their reliance on these tools. This reluctance stems from a perception that using AI for content creation diminishes the skill and effort traditionally associated with journalistic work, raising concerns about authenticity and professionalism.

For example, Jonas, a senior producer and news anchor said: *“You have an individual with a particular writing style, and then overnight they become Shakespeare.”* Journalists fear being perceived as less credible or competent if their work is attributed to AI assistance, which contributes to the underreporting of AI use in newsrooms (Adeleke & Ojebuyi, 2020; Dube, 2021). Adding to this stigma is the lack of legal frameworks governing the use of AI in journalism. This absence raises critical questions about authorship and accountability. When chatbots contribute to or fully generate news content, it is unclear who holds ownership and responsibility for the final product—the journalist, the organisation, or the developers of the AI tool. Such ambiguity can lead to ethical dilemmas, especially when errors or biases are present in AI-generated content (Binns, 2018; Clark et al., 2019). Furthermore, the lack of regulation hampers the integration of AI tools into newsroom workflows. Journalists are often unsure of the boundaries and guidelines for using chatbots, which may result in inconsistent practices and a reluctance to embrace the technology openly. Establishing robust legal and ethical frameworks would help address these concerns by clarifying attribution, ensuring accountability, and mitigating the stigma around chatbot usage in journalism. Such measures are crucial for fostering a transparent and balanced relationship between journalists and AI technologies, ultimately enhancing their potential to complement human creativity and integrity (Diakopoulos, 2019; Moyo & Matandirotya, 2020).

4.4. Job Security Concerns

The integration of ChatGPT into NBC newsroom operations has raised significant job security concerns, particularly among sub-editors. These professionals play a critical role in the journalistic process, ensuring accuracy, grammar, style, and coherence in news stories. However, as AI technologies increasingly automate these tasks, many sub-editors worry about being displaced. For example, Lahja, a sub-editor questioned: *“What is the point of having me as a sub-editor when AI already generates content that is AI sub-edited, so we will be the first to lose jobs?”* ChatGPT and tools such as Grammarly can perform tasks such as grammar correction, fact-checking, and even editing, often at a faster pace than humans. This efficiency, while beneficial for meeting tight deadlines, has fueled fears of redundancy within the profession (Dube, 2021; Namibia Media Trust [NMT], 2024). Sub-editors' concerns are not unfounded. Research indicates that newsroom automation is reshaping job structures, with AI tools being seen as cost-effective alternatives to human labour. A study by NMT (2024) revealed that 73% of journalists in Namibia rely on AI tools for tasks traditionally handled by sub-editors, such as transcription, translation, and content editing. This reliance highlights the potential for AI to replace human roles, especially in resource-constrained environments where cost-cutting is a priority. Despite these concerns, many experts

argue that AI should be viewed as a complementary tool rather than a replacement for human expertise. AI lacks the nuanced understanding, creativity, and ethical judgment that human sub-editors bring to their work. While AI can streamline repetitive tasks, human oversight remains essential to ensure the accuracy and contextual relevance of news content (Diakopoulos, 2019; Moyo & Matandirotya, 2020). The fear of job displacement underscores the need for newsrooms to strike a balance between adopting AI technologies and retaining skilled human professionals. Providing sub-editors and editors with training to leverage AI tools effectively can help alleviate their concerns. By equipping them to work alongside AI, newsrooms can enhance productivity while preserving the unique value of human judgment and creativity in journalism (Adeleke & Ojebuyi, 2020; Binns, 2018).

4.4.1. Differences Between Professional Groups in Views & Variations in Responses by Age and Gender

The study revealed notable differences in perspectives among various professional groups regarding ChatGPT's integration into newsroom workflows at NBC.

-Senior managers emphasised the strategic benefits of AI, particularly its potential to streamline newsroom operations and reduce costs. They focused on how ChatGPT aligns with long-term organisational goals, such as enhancing efficiency and productivity. However, they were also cautious about ethical implications and the need for policies to ensure responsible AI use. As the older participants, they were more cautious, prioritising the ethical and professional implications of AI integration and emphasising the importance of preserving editorial oversight.

-Producers and Editors had a more pragmatic view, valuing ChatGPT for its ability to handle repetitive tasks like sub-editing and transcription, which freed up time for creative decision-making and maintaining journalistic standards. They were particularly focused on the quality and accuracy of AI outputs, expressing concerns about the chatbot's inability to handle nuanced cultural contexts and the potential for errors in fact-checking.

-Reporters appreciated the efficiency ChatGPT brought to content creation and research tasks, allowing them to meet deadlines more effectively. However, they expressed greater apprehension about its limitations in capturing the depth and cultural relevance required for field reporting. Many viewed ChatGPT as a helpful tool for idea generation but maintained skepticism about its reliability for nuanced storytelling.

-Freelancers were the most optimistic about ChatGPT, seeing it as an equalizer that offered tools to enhance their productivity and compete with full-time staff. However, they also expressed concerns about the accessibility of AI resources and the potential for AI tools to homogenise content, making it harder for freelancers to distinguish their work. Younger journalists, particularly freelancers and early-career professionals, were more enthusiastic about ChatGPT, viewing it as an innovative tool that aligns with the digital-first approach of modern journalism.

-Technical specialists were focused on the functional aspects of ChatGPT, particularly its role in automating tasks and its integration into newsroom systems. They emphasised the importance of ongoing technical support and training to optimise its use.

-The social media manager highlighted the role of ChatGPT in enhancing audience engagement through quick content adaptations and multilingual translations. However, he also raised concerns about the chatbot's limitations in understanding cultural nuances, which could affect audience trust.

In terms of gender, the study did not reveal significant gender-based differences in perspectives. However, these differences underscore the importance of tailoring AI adoption strategies to address the diverse needs and concerns of newsroom professionals, taking into account their roles, experiences, and demographic contexts.

4.5. Resource Constraints

The integration of AI tools like ChatGPT into newsroom operations at NBC is hampered by significant resource constraints. While ChatGPT offers opportunities to enhance efficiency and streamline workflows, the absence of adequate infrastructure poses challenges to its optimal utilisation. Key issues include insufficient and or outdated technological equipment and non-operational infrastructure, such as the central air conditioning system. These deficiencies not only affect the comfort and productivity of staff but also hinder the seamless operation of AI tools that require stable digital environments (NMT, 2024). Franklin, a junior news producer was more concerned about outdated equipment which were also heavily shared among the colleagues, stressing that *“there is a need for the procurement of modern equipment and stable and secure internet connectivity as the current ones were outdated.”* Inadequate equipment limits the potential benefits of AI tools in newsrooms. For instance, aging or unreliable computers and

internet connectivity issues can disrupt AI-powered workflows, including transcription, translation, and content editing. This is particularly problematic in resource-constrained newsrooms like NBC, where journalists rely on minimal resources to meet tight deadlines and produce high-quality content. Such challenges are compounded by the increasing demand for timely and accurate news delivery in a competitive media landscape (Adeleke & Ojebuyi, 2020; Dube, 2021). An example Daniel, a news editor says *“Given the speed at which AI is developing and evolving, our softwares are outdated and would require updating or completely new ones as a country... This takes away from efficient and timely delivery of news.”* Moreover, non-operational infrastructure such as air conditioning can have indirect yet profound effects on AI integration. Poor working conditions lead to reduced staff morale and productivity, which, in turn, affects the effective use of AI tools. In the context of newsrooms, where efficiency is paramount, these environmental challenges can delay the adoption of transformative technologies like ChatGPT (Moyo & Matandirotya, 2020). Addressing these resource constraints requires a holistic approach. Investment in modern equipment and infrastructure is critical to creating a conducive environment for AI integration. Partnerships and collaborations with technology providers or international organisations could help NBC pick up shared best practices and also acquire the necessary tools and training for its staff on the effective and efficient use of news producing chatbots. Additionally, sustainable solutions, such as renewable energy systems or localised IT support, could help mitigate the impact of infrastructure challenges (Diakopoulos, 2019). While ChatGPT offers immense potential to revolutionize journalism, its effectiveness is tied to the quality of the infrastructure supporting it. Without adequate resources, NBC risks underutilizing this technology, which could exacerbate the digital divide between African newsrooms and their counterparts in the Global North.

4.6. Linguistic Diversity and Social Media Engagement

Namibia’s linguistic diversity, with close to 30 languages spoken across the country, offers both challenges and opportunities for the integration of AI tools like ChatGPT in television news production at NBC. As a nation with 11 official languages, including English, Afrikaans, Oshiwambo, SiLozi, RuKwangali, and Otjiherero, ensuring inclusive content delivery requires technological tools capable of accommodating such diversity. AI chatbots have the potential to bridge linguistic gaps by supporting multilingual content creation and facilitating access to information for diverse audiences (Nyamnjoh, 2019). The participants have indicated that AI tools are utilised in combination with traditional tools for the best results, particularly for sub-editing in indigenous languages with the specific aim to incorporate and include marginalised communities and to avoid bias. ChatGPT, in particular, can assist in translating and

generating content in multiple languages, addressing the varied linguistic needs of Namibia's population. Peter, the manager of news and current affairs a seasoned journalist at the corporation says *“The future of benefially utilising traditional vis a vis AI tools for transcribing and sub-editing in indigenous languages remains optimistic, and that technology would eventually evolve to a point that it will cater for them .”* This capability allows newsrooms to cater to regional and minority language speakers, fostering inclusivity and broadening the reach of NBC news content as the national public broadcaster. Furthermore, AI-driven tools can support newsroom workflows by transcribing and editing in different languages, ensuring more efficient and consistent content production (NMT, 2024).

Social media platforms amplify the potential of chatbots in audience engagement. ChatGPT’s ability to analyse audience feedback on NBC’s platforms like Digital News on Facebook, Instagram, and X allows it to tailor content to viewer preferences. This feedback loop ensures that newsrooms including NBC can respond in real-time to audience needs, offering more personalised and relevant content. Such capabilities not only enhance engagement but also help build trust and loyalty among viewers (Adeleke & Ojebuyi, 2020). Despite these opportunities, Namibia’s population of approximately 3 million as of 2024 limits the demand for real-time news dissemination. However, as internet penetration increases and NBC viewership expands, the role of social media and AI-driven tools like ChatGPT in audience engagement is expected to rapidly grow. This evolution may also address the existing gaps in reaching remote or underrepresented communities where linguistic diversity is most pronounced.

The effective use of AI in managing linguistic diversity and social media engagement requires overcoming several challenges, such as the limited availability of training datasets for minority languages and potential biases in AI-generated content. Partnerships with local linguistic experts and investment in AI training for less-represented languages can enhance the effectiveness of tools like ChatGPT in Namibia (Dube, 2021). Moreover, regulatory frameworks and newsroom policies must address ethical concerns about language use and misinformation to ensure that these technologies promote equitable access to information. Namibia’s linguistic diversity and growing reliance on social media present unique opportunities for leveraging AI tools like ChatGPT. These technologies have the potential to transform television news production and audience engagement, ensuring inclusive, multilingual content delivery while responding to the evolving demands of the media.

4.7. Policy: Regulatory Framework and Ethical Challenges

The integration of ChatGPT into newsrooms necessitates robust regulatory frameworks and guidelines to address ethical, operational, and professional challenges. At NBC, the absence of a formalised and updated policy has led to concerns among journalists, particularly regarding the balance between AI and human oversight in journalism. Recognising this gap, NBC is in the process of drafting a comprehensive regulatory framework expected to be finalised by mid-2025. This framework aims to guide the ethical and practical use of AI, ensuring that journalistic standards are maintained while leveraging the efficiencies offered by AI tools. A key concern raised during the study is the impact of AI tools on new journalists entering the field. Fresh graduates may rely excessively on AI tools like ChatGPT without adequately developing core journalistic skills, such as critical thinking, investigative reporting, and ethical decision-making. While AI can enhance efficiency, it cannot replace the nuanced judgment, creativity, and human insight essential to high-quality journalism (Dube, 2021). This sentiment aligns with broader scholarly discourse, which emphasizes that the human brain and journalistic intuition remain irreplaceable despite technological advancements (Adeleke & Ojebuyi, 2020). Furthermore, while AI can streamline processes and reduce errors, it is not reliable. ChatGPT and similar tools are prone to inaccuracies and biases, underscoring the need for vigilant human oversight, thereby ensuring avoidance of disinformation and misinformation. A regulatory framework will help establish clear guidelines on where and how AI can be deployed in newsrooms while defining accountability for errors or misinformation generated by AI tools. This is particularly important given the ethical implications of assigning authorship to AI-generated content (Clark et al., 2019). As part of the policy development process, NBC has emphasized the need for ongoing training and education for journalists. This will ensure that AI tools complement rather than undermine traditional journalistic practices. By equipping journalists with the skills to use AI effectively while adhering to ethical standards, NBC aims to foster a newsroom culture where technology and human expertise coexist harmoniously (Binns, 2018), which in turn helps ChatGPT and other news chabots align with NBC's broader strategic objectives for innovation and technological advancements and contributing to the long-term competitiveness and relevance of NBC in the media industry.

4.8. Comparison to the Global North: Contextual Adaptation and Best Practices

The integration of ChatGPT in Namibian newsrooms invites comparisons to practices in the Global North, where similar technologies have been extensively adopted. However, a key consideration is that context matters significantly in determining the effectiveness and ethical implications of AI deployment in

journalism. Namibia's unique socio-economic, linguistic, and infrastructural realities mean that what works in technologically advanced regions may not always align with the needs or constraints of local media environments.

In the Global North, AI technologies in newsrooms are often supported by advanced infrastructure, robust funding, and well-established regulatory frameworks. News organisations such as The New York Times and The Guardian have implemented AI for tasks such as content curation, fact-checking, and audience personalisation, achieving efficiency while maintaining high journalistic standards (Diakopoulos, 2019). These implementations are facilitated by substantial investment in AI research and development, which is not always feasible for resource-constrained organisations like Namibia's NBC. In contrast, Namibian newsrooms face challenges such as inadequate equipment and limited access to AI-compatible infrastructure, which can hinder the effective use of tools like ChatGPT (NMT], 2024). These constraints underscore the need to adapt AI practices to local contexts rather than directly replicating approaches from the Global North.

Despite these differences, Namibian newsrooms can learn valuable lessons from the experiences of media organisations in the Global North. For instance, initiatives in ethical AI journalism, such as Reuters' efforts to establish transparent policies for AI-generated content, offer a blueprint for fostering accountability and public trust (Binns, 2018). Additionally, training programs in AI literacy for journalists, as implemented by the BBC, can serve as a model for NBC to equip its staff with the skills necessary to use AI tools effectively. Adopting best practices should involve customizing strategies to address Namibia's unique challenges. For example, while AI tools in the Global North are primarily designed for monolingual or bilingual contexts, Namibia's linguistic diversity requires AI systems capable of supporting multilingual content generation. Collaborating with international AI developers to enhance language capabilities could significantly improve the relevance of AI tools for local audiences (Adeleke & Ojebuyi, 2020). For instance, Jeanette, a senior gatekeeper in her mid-40s is concerned about the aspect of this linguistic diversity saying *"As in other African countries, NBC news audience come from different ethnic backgrounds, hence the broadcasting of local language bulletins at different intervals during the day, unlike in the Global North. So, as we await for finalisation of the framework and guidelines for use of chatbots, we are also expecting the evolution of AI to incorporate African local languages as was done in the Global North"*

4.9. The Role of Policy and Collaboration

Comparative insights also highlight the importance of policy development and international collaboration. In the Global North, governments and media organisations are actively shaping regulatory frameworks to address ethical concerns surrounding AI in journalism (Clark et al., 2019). Namibia could similarly benefit from establishing policies that regulate AI use while fostering innovation. Partnerships with international organizations can provide technical expertise and financial resources to support these initiatives.

Conclusion

While Namibia's context differs from that of the Global North, the country can draw inspiration from successful AI practices abroad, adapting them to suit local realities. By prioritising context-specific strategies and leveraging lessons from more advanced regions, Namibian newsrooms can harness AI's potential to enhance journalism while preserving their unique cultural and ethical standards.

4.9. NBC's elections policy in alignment with the use of ChatGPT

NBC has an election policy which governs all election coverage and is streamlined with the Electoral Commission's Act. NBC's draft policy also reflects a broader trend in media organisations seeking to align AI usage with existing journalistic principles and national legislation. For example, during election coverage, NBC adheres to strict guidelines under the Electoral Commission's Act, which prohibits the use of chatbots for generating news content during the electoral period. This ensures that election reporting remains unbiased and transparent, maintaining public trust. Integrating similar ethical considerations into the AI policy will help safeguard the integrity of Namibian journalism (Namibia Media Trust [NMT], 2024). *"Suffice to say, there were no ambiguities in the day-to-day work of election coverage from the broadcaster,"* says Blanche.

Reporters' Perspectives

Reporters generally supported the policy, recognising the sensitivity of election coverage and the need to maintain high standards of accuracy and impartiality. They emphasised that ChatGPT's limitations in understanding political contexts and nuances posed a risk of misrepresentation or errors in reporting election-related stories. Some reporters expressed relief that this policy reinforced the need for rigorous fact-checking and human oversight during critical news events.

Editors' Perspectives

Editors were largely aligned with the policy, citing concerns about the potential for AI-generated content to inadvertently introduce bias or misinformation. They emphasised that elections demand heightened journalistic integrity and believed relying on human expertise was essential to uphold NBC's credibility during such critical coverage. Haipare, a Senior Producer and Editor and in the employ of NBC for 16 years said: *"Unfortunately it is too premature and reckless rely of any election statistics produced by a chatbot at the moment."* However, a few editors acknowledged the practical benefits of using ChatGPT for non-editorial support, such as organising data or streamlining administrative tasks.

Both groups agreed that while ChatGPT could enhance productivity in general contexts, its application during elections needed stricter controls to ensure accuracy, cultural sensitivity, and adherence to journalistic ethics. The policy was seen as a protective measure to uphold the newsroom's reputation during politically charged periods.

CHAPTER FIVE

5. Conclusions and Recommendations

5.1. Introduction

The final chapter presents the key findings, drawing conclusions, and offering recommendations based on the investigation into the effects of ChatGPT on television news production at NBC. Building on the preceding chapters, this chapter synthesises insights gained from evaluating how ChatGPT and similar chatbots influence content creation, particularly within the African cultural context, and explores journalists' perceptions of this emerging technology. This chapter begins by revisiting the study's objectives to align the findings with the research questions and broader aims. It then delves into the implications of the study, highlighting how ChatGPT's integration can shape newsroom dynamics, improve efficiency, and pose challenges in maintaining cultural authenticity and ethical standards. By addressing these dimensions, Chapter Five offers a comprehensive understanding of the opportunities and risks posed by AI technologies in Namibian and broader African media landscapes. The chapter concludes with actionable recommendations aimed at guiding NBC and other African newsrooms in the responsible adoption of AI tools, ensuring they strike a balance between innovation, cultural preservation, and journalistic integrity. Through this, the study provides a roadmap for leveraging AI to enhance the effectiveness of television news production while safeguarding the unique linguistic and cultural heritage of Namibia.

5.2. Summary of the key findings of the Study

Through an analysis of newsroom workflows, cultural dynamics, and journalists' experiences, this study explored and highlighted several critical insights.

Enhancement of Efficiency in Newsgathering and Content Creation

The majority of the participants concur, through experience that ChatGPT has demonstrated the ability to streamline repetitive tasks such as data collection, script drafting, and sub-editing, significantly improving workflow efficiency. However, its multilingual capabilities, though limited in African indigenous languages, support broader access to global news sources (Al-Adwan et al. 2023), 2023; Mukwiza, 2023). The tool's inability to process and reflect nuanced, localised cultural contexts raises concerns among the participants about its applicability in authentically representing Namibia's diverse population.

Challenges in Maintaining Cultural and Linguistic Authenticity

The integration of ChatGPT into content creation revealed risks of homogenization in news reporting, as the chatbot often generates culturally generic outputs (Makoni, 2021; Mutorwa, 2023). This limitation is particularly significant in Namibia, where linguistic diversity and cultural sensitivity are central to broadcasting (Cohen, 2020; Nambala, 2024; Zimba et al., 2024). The absence of robust support for indigenous languages diminishes the tool's utility in producing culturally resonant content, potentially alienating local audiences (Tefera, 2023; Mukwiza, 2023; Akwe, 2022). This was supported by the interviewees in this study, who noted, among other points, that ChatGPT's limited proficiency in Namibia's indigenous languages such as RuKwangali, Oshiwambo, SiLozi, Otjiherero, and Khoekhoegowab significantly hindered its ability to produce culturally nuanced content. Given that NBC News prioritises broadcasting in these vernaculars to cater to Namibia's diverse linguistic landscape, the chatbot's reliance on culturally generic outputs risks alienating local audiences and undermining efforts to promote inclusivity. This linguistic limitation not only disconnects news producers from their viewership but also compromises the authenticity of reporting, which is essential in a society where cultural sensitivity and representation are central to democratic engagement.

Impact on Journalistic Roles and Ethical Considerations

Journalists expressed mixed perceptions of ChatGPT's role in their profession. While many acknowledged its potential to foster creativity and enhance productivity (Smith, 2021; Akwe, 2022; Zhang & Kvale, 2023), concerns emerged about job displacement, dependency on AI, and the erosion of editorial oversight (Cohen, 2020; Moyo, 2022; Tefera, 2023). These concerns are particularly relevant in the Namibian context, where a small media industry, substantial job losses during the COVID-19 pandemic, and a high prevalence of precarious employment such as short-term contracts, freelancing, and internships have already placed significant strain on job security. Ethical dilemmas, including biases in AI-generated content and the risk of misinformation, were also highlighted as critical challenges that must be addressed to ensure the technology serves as a tool for empowerment rather than exacerbating existing vulnerabilities in the profession.

Potential for Improved Objectivity and Precision

Despite its challenges, ChatGPT has shown promise in enhancing the precision and objectivity of news reporting. By providing quick access to large volumes of information, the tool supports journalists in

presenting well-rounded and data-driven stories (Chen & Zhang, 2020; Smith, 2021; Zhang & Kvale, 2023). However, the reliance on AI for objectivity must be tempered with human editorial judgment to ensure factual accuracy and context (Bender et al., 2021; Miller, 2020; Zimba et al., 2024).

Perceptions of AI Integration in Namibian Newsrooms

The study revealed a dual sentiment among journalists: optimism about the transformative potential of AI technologies and caution regarding their implications for journalistic integrity and cultural relevance (Moyo, 2022; Mutorwa, 2023; Tefera, 2023). This underscores the need for strategic integration that aligns with the unique socio-cultural landscape of Namibia (Makoni, 2021; Akwe, 2022; Nambala, 2024).

In summary, the findings emphasize that while ChatGPT holds significant potential to transform television news production by enhancing efficiency and objectivity, its limitations in cultural sensitivity, ethical implications, and linguistic diversity must be addressed to maximize its benefits (Tefera, 2023; Nambala, 2024; Zimba et al., 2024). These insights serve as a foundation for developing policies and practices to responsibly adopt AI technologies in African newsrooms (Bender et al., 2021; Miller, 2020; Mukwiza, 2023).

5.3. Research Aims and Objectives

The research aimed at examining the effects of ChatGPT and other chatbots on television news production at NBC, with a focus on efficiency, cultural dynamics, ethical considerations and journalists' experiences. While the findings of the study revealed that ChatGPT was the only television news producing chatbot that is utilised by the participants at NBC, this aim has been achieved by investigating the integration of ChatGPT in newsroom workflows, evaluating its influence on cultural and linguistic authenticity, and exploring journalists' perceptions of the technology's role in their profession. The findings provide a nuanced understanding of the potential benefits, challenges, and future opportunities associated with ChatGPT in Namibian television news production.

Sub-Objective i: Examine how the use of ChatGPT and other chatbots affects newsgathering processes in television news production, including the efficiency and effectiveness of information collection. The study found that ChatGPT significantly enhances efficiency in newsgathering by automating repetitive tasks such as data synthesis, background research, and sub-editing. These capabilities allow the participants to allocate more time to creative and analytical tasks, reducing the pressure of tight deadlines (Smith, 2021;

Mukwiza, 2023). However, the tool's inability to independently verify information necessitates human oversight to ensure accuracy and relevance in the local context.

Sub-Objective ii: Evaluate the challenges posed by ChatGPT and other chatbots on television news content in the African cultural context generation, and their potential to improve the precision and objectivity of news reporting. ChatGPT, being the only chatbot utilised by participants at NBC, demonstrates the potential to improve precision and objectivity by providing access to diverse perspectives and factual data. However, the study highlighted significant challenges in its application within the African cultural context. ChatGPT struggles with Namibia's linguistic diversity, particularly its indigenous languages, which undermines its ability to produce culturally authentic content (Tefera, 2023; Nambala, 2024; Makoni, 2021; Zimba et al., 2024). Moreover, reliance on its outputs risks homogenising news narratives and diluting local cultural elements, creating a disconnect with Namibian audiences.

Sub-Objective iii: Assess journalists' perceptions and experiences regarding the use of ChatGPT and other chatbots in television news production. In this regard, participants expressed mixed perceptions of ChatGPT's role in news production. While many acknowledged its ability to reduce workload and support innovative storytelling, concerns were raised about potential job displacement, loss of editorial control, and ethical dilemmas, such as AI-generated biases and misinformation (Cohen, 2020; Tefera, 2023; Mutorwa, 2023; Moyo, 2022). These sentiments reveal a tension between optimism about AI's transformative potential and caution about its impact on the integrity of journalistic practices.

Alignment with the Research Aim

The research findings align with the aim by providing a comprehensive evaluation of ChatGPT's effects on television news production at NBC. The study underlines the tool's ability to enhance efficiency and objectivity while also identifying its cultural and ethical limitations. It highlights the necessity of balancing technological innovation with socio-cultural sensitivities to ensure responsible AI adoption in Namibian and African newsrooms. By explicitly addressing each sub-objective, the research contributes to the broader understanding of how AI can be strategically integrated into African newsrooms to enhance productivity while preserving cultural authenticity and journalistic ethics.

5.4. The Study's Main Contributions

The study's main contributions lie in its examination of ChatGPT's impact on television news production at NBC, stressing its effects on efficiency, cultural challenges, journalistic ethics, and the strategic integration of AI in African media contexts.

1. Insight into the Effects of ChatGPT on Newsroom Efficiency

The study contributes valuable insights into how AI technologies like ChatGPT can streamline newsgathering processes and enhance efficiency in television news production. By automating repetitive tasks such as data collection, script drafting, and fact-checking, ChatGPT reduces time pressures on journalists, allowing them to focus on higher-value, creative, and analytical work. This finding adds to the growing body of research on AI's role in improving productivity in media environments, particularly in African contexts (see Smith, 2021; Mukwiza, 2023).

2. Exploration of Cultural and Linguistic Challenges in African Contexts: Namibia

One of the study's unique contributions is its consideration of the challenges posed by AI technologies in the African cultural context, particularly regarding linguistic diversity. While ChatGPT proves effective for content creation in major languages, it faces limitations when it comes to Namibia's indigenous languages, which are central to the country's cultural identity. The research highlights the risks of cultural homogenisation in news reporting due to the chatbot's inability to process indigenous languages effectively (Tefera, 2023; Nambala, 2024). This limitation poses a significant threat to the preservation of Namibia's rich linguistic diversity, as it could inadvertently prioritise global or dominant cultural narratives over local voices. Languages such as RuKwangali, Oshiwambo, SiLozi, Otjiherero, and Khoekhoegowab—essential to Namibia's identity and social cohesion are at risk of being marginalized in news content, undermining efforts to promote inclusivity and representation in media.

In a nation where indigenous languages play a crucial role in fostering community engagement and reflecting diverse perspectives, the absence of AI tools that can effectively process these languages risks alienating local audiences and weakening public trust in media institutions. Furthermore, this lack of linguistic capability can lead to a dilution of cultural nuances and the loss of unique storytelling traditions that are integral to Namibian society. To mitigate these risks, there is a pressing need to develop AI systems that prioritise linguistic and cultural diversity, to ensure that local languages are not just

supported but actively celebrated in news reporting. Failure to address this challenge could result in a news ecosystem that is disconnected from the very audiences it aims to serve, ultimately compromising the democratic role of media in Namibia. This contribution emphasises the need for more culturally sensitive AI tools in African newsrooms.

3. Understanding the Ethical and Practical Implications of AI Integration in Journalism

This study offers an in-depth analysis of journalists' perceptions and experiences with ChatGPT. It reveals both the optimism surrounding AI's potential to foster creativity and productivity, as well as concerns about job displacement, editorial control, and ethical dilemmas, such as biases in AI-generated content and the risk of misinformation (Cohen, 2020; Tefera, 2023). These insights provide an understanding of the ethical challenges and tensions involved in integrating AI into journalistic practice, particularly in Africa, where the balance between technology and human expertise is still evolving.

4. Policy and Strategic Recommendations for AI Adoption in African Newsrooms

The study makes an important contribution by offering policy recommendations for the responsible adoption of AI technologies in African newsrooms. It underscores the need for strategic integration of tools like ChatGPT that align with the socio-cultural and linguistic landscape of African countries, ensuring that AI is used in a way that respects local customs, languages, and cultural diversity. These proposed interventions and recommendations are crucial for guiding media institutions in navigating the intersection of technological innovation and cultural preservation (Makoni, 2021; Nambala, 2024). They include:

Strategic AI Integration to ensure that AI tools like ChatGPT align with the socio-cultural and linguistic landscape of African countries.

Linguistic and Cultural Sensitivity – Enhancing AI support for indigenous languages to maintain cultural authenticity in news reporting.

Ethical AI Governance – Establishing guidelines to mitigate biases, misinformation, and ethical risks in AI-generated content.

Human-AI Collaboration – Encouraging a balanced approach where AI enhances, rather than replaces, human editorial oversight.

Capacity Building – Providing training for journalists to effectively use AI while maintaining journalistic integrity and professionalism.

These recommendations help media institutions navigate the intersection of technological innovation and cultural preservation.

5. Contributions to the Broader Field of AI and Journalism

This study also adds to the global discourse on the role of AI in journalism, particularly within underrepresented contexts such as African media. By focusing on NBC, it provides a case study that reflects broader trends in African journalism, thus contributing to the global conversation about AI adoption in media industries and the potential challenges and benefits for developing nations (Zimba et al., 2024; Zhang & Kvale, 2023).

In summary, the study contributes to the understanding of ChatGPT's impact on television news production in Namibia, highlighting both the opportunities it presents for improving efficiency and the challenges it raises in terms of cultural authenticity, linguistic diversity, and ethical considerations in journalism. These contributions are essential for shaping future policies and practices for AI integration in African newsrooms.

5.7. Recommendations for Future Research

Based on the limitations and findings of this study, several recommendations for future research are proposed to further explore the impact of AI, particularly ChatGPT, in media environments, especially within the African context.

1. Expand the Sample Size and Scope

Future research should include a larger, more diverse sample of journalists and media organisations, both within Namibia and across different African countries. By incorporating perspectives from multiple newsrooms (both public and private, and examining print newsrooms rather than only focusing on broadcast as this study did), the study could capture a broader range of experiences and challenges faced

by journalists when integrating AI technologies. This approach would improve the generalisability of the findings and allow for a more nuanced understanding of the regional differences in AI adoption in African media.

2. Explore Other AI Technologies in Journalism

While this study focused on ChatGPT, future research should explore the impact of other AI tools and technologies used in journalism, such as automated newswriting systems like Dall-e, Newsbot, IBM's Watson, etc., AI-based video editing tools, and sentiment analysis software. By comparing various AI technologies, researchers can gain insights into which tools are most effective in different aspects of newsroom workflows, content creation, and journalistic practices, and how they contribute to or hinder editorial quality.

3. Investigate Longitudinal Effects of AI in Newsrooms

A longitudinal study would provide valuable insights into the long-term effects of AI adoption in newsrooms. Tracking how journalists' roles, workflows, and attitudes evolve over time with continued exposure to AI tools would help identify emerging trends, challenges, and best practices. This would also allow researchers to assess the sustainability and ethical implications of AI integration in news production as AI technologies continue to advance.

4. Focus on AI and Linguistic Diversity

Future studies should focus specifically on how AI technologies, like ChatGPT, can be improved to better support African linguistic diversity. Research could explore how AI can be adapted or developed to process indigenous languages more accurately and effectively, ensuring that AI-driven journalism respects and represents cultural and linguistic nuances. This could involve collaborations between AI developers and local language experts to build more inclusive systems for African media contexts.

5. Examine Ethical Implications in More Depth

Future research should investigate deeper into the ethical concerns surrounding AI in journalism. This includes investigating how biases in AI algorithms can affect news content, the risk of misinformation, and the potential erosion of editorial independence. Researchers could also explore methods for mitigating

these ethical risks, such as implementing human oversight, developing more transparent algorithms, and creating editorial guidelines that balance AI's use with journalistic integrity.

6. Study the Impact of AI on Audience Perceptions

It would be valuable to explore how audiences perceive AI-generated content. Future research could involve surveys or focus groups with viewers to understand their trust in AI-driven news reports, their preferences for human vs. AI-produced content, and their concerns about the authenticity and accuracy of AI-generated news. This would provide insights into the public's reception of AI in media and help guide responsible AI integration that aligns with audience expectations and preferences.

7. Incorporate Cross-Cultural Comparative Studies

Given the diverse cultural landscapes across Africa, future studies should include cross-cultural comparisons to examine how different African countries are adopting and adapting AI technologies in media. These studies could investigate how AI is influencing local content production, how newsrooms are addressing cultural authenticity, and how AI tools are being tailored to meet the specific needs of various cultural and linguistic groups. Understanding these regional differences will provide a more holistic picture of AI's impact on African journalism.

8. Evaluate AI's Role in Enhancing Investigative Journalism

While this study focused primarily on news production processes, future research could explore the potential of tools like ChatGPT in enhancing investigative journalism. AI's ability to process vast amounts of data and identify patterns could be harnessed to improve investigative reporting, data journalism, and fact-checking processes. For instance, future research could assess how AI might uncover hidden stories by analysing public records, social media trends, or other datasets that might otherwise go unnoticed by human reporters. Moreover, such studies could explore how AI can enhance journalists' techniques by automating tasks like cross-referencing sources, extracting insights from documents, and identifying inconsistencies in statements. Importantly, future research could investigate AI's role in supporting fact-checking efforts, ensuring accuracy in reporting while countering misinformation in African media.

Recommendations for NBC and Namibian Newsrooms

1. Invest in AI Training and Awareness

NBC and other Namibian newsrooms should prioritise equipping their staff with the skills to work alongside generative tools like ChatGPT. Workshops and training sessions can help journalists understand AI's capabilities and limitations, allowing them to use these tools effectively while maintaining editorial oversight.

2. Develop Locally Relevant AI Models

Collaborating with local linguists, software developers, and AI researchers, Namibian newsrooms could advocate for the creation of AI tools that support indigenous languages such as RuKwangali, Oshiwambo, SiLozi, Otjiherero, and Khoekhoegowab. This would ensure AI tools are culturally sensitive and inclusive, reflecting Namibia's diverse linguistic and cultural heritage. Moreover, the local and international IT industry should develop AI with more strict fact-checking systems to avoid the temptation towards 'hallucinations'.

3. Establish Ethical Guidelines for AI Integration

To address concerns about biases, misinformation, and job displacement, newsrooms should develop clear ethical guidelines for using AI tools. These guidelines should emphasise transparency, accountability, and human oversight in AI-assisted reporting, ensuring that technology enhances, rather than replaces, the human element in journalism.

4. Balance AI Integration with Job Security

In Namibia, media employment is often characterised by short-term contracts, freelance work, and a general lack of job security. Thus, the integration of AI tools must be approached with attentiveness to avoid intensifying prevailing vulnerabilities. Instead of replacing journalists, AI should be used as a tool to boost their capabilities, particularly in areas where automation can improve efficiency without compromising quality. For example, AI can assist with tasks such as data analysis, transcription, or content aggregation, freeing journalists from time-consuming duties and allowing them to devote more time to high-value activities like in-depth reporting, investigative journalism, and crafting compelling human interest stories. This type of integration not only enhances productivity but also helps create a more sustainable working environment, where journalists can focus on tasks that require creativity, human judgment, and cultural understanding—qualities that AI cannot replicate. By positioning AI as a complement to, rather than a replacement for, human journalists, media organisations like NBC can

support job security while simultaneously benefiting from the efficiencies that AI tools offer. This balanced approach can ensure that technological advancements do not undermine employment stability, but instead enhance the journalistic profession by enabling journalists to provide more thoughtful and engaging content for their audiences.

5. Engage Communities in the AI Conversation

Newsrooms should actively engage their audiences in discussions regarding AI in media, to ensure transparency and to foster trust. By involving communities, particularly in linguistically diverse regions such as Africa, broadcasters can tailor AI integration strategies to meet the unique needs and expectations of their viewers.

Conclusion

While AI tools like ChatGPT offer noteworthy potential to transform journalism, their integration must be thoughtful and inclusive, balancing technological innovation with cultural sensitivity and job security. Future research and practical implementation should focus on leveraging AI to enhance journalism while safeguarding journalistic values and the core principles of accuracy, diversity, and public trust in the media.

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Appendices

Appendix 1 Ethical Clearance Approval



FACULTY RESEARCH ETHICS COMMITTEE (F-REC)
DECISION/FEEDBACK ON THE RESEARCH PROPOSAL

Dear Anna Tashiya Kadhila (214002322)

RESEARCH TOPIC: EXAMINING THE EFFECTS OF CHATGPT ON TELEVISION NEWS PRODUCTION

Supervisor (if applicable): **Dr Hugh Ellis and Ms. Jordaania K. Andima**

Qualification registered for (if applicable): Master of Journalism and Media Technology

(Reference number of applications: **FACULTY RESEARCH ETHICS COMMITTEE REGISTRATION NUMBER: FREC - 57/24**)

Re: Ethical screening application No: **FREC - 57/24**

The Faculty of **Computing and Informatics** Ethics Screening Committee of the Namibia University of Science and Technology reviewed your application for the above-mentioned research. The research as set out in the application has been:

Approved X

(Indicate with an X, and N/A if not applicable and proceed)

We would like to point out that you, as a researcher, are obliged to maintain the ethical integrity of your research, adhere to the ethical guidelines of NUST, and remain within the scope of your research proposal and supporting evidence as submitted to the F-REC. Should any aspect of your research change from the information as presented to the F-REC, which could affect the possibility of harm to any research subject, you are under the obligation to report it immediately to your supervisor or F-REC as applicable in writing. Should there be any uncertainty in this regard, you must consult with the F-REC.

We wish you success with your research and trust that it will make a positive contribution to the quest for knowledge at NUST.

Any ethical issues that need to be highlighted?	Why are these issues important?	What must/could be done to minimize the ethical risk?
No	N/A	N/A

Recommendation: The application is approved.

Sincerely,

Prof. Suama L. Hamunyela
Chairperson: Faculty Ethics Screening
Committee Tel: +264-61-207-2922
CC: Co-supervisor: None





NAMIBIA UNIVERSITY OF SCIENCE AND TECHNOLOGY

In-depth Interview/Questionnaire Schedule for Journalists:

Student's Full Name	Anna Tashiya Kadhila
Student Number	214002322
Qualification Registered For	Master of Journalism and Media Technology
Supervisor/Qualifications/Affiliation Supervisor: Co-supervisor:	Dr Hugh Ellis PhD Journalism & Media Studies, Rhodes University MA Journalism & Media Studies, Rhodes University BSc Honours Journalism and Media Studies, Ms Jordania K. Andima Master of Arts in Multimedia Journalism, University of Westminster, London. Bachelor of Arts in Mass Media Art, University of the District of Columbia, United States.

Information on the participant:

Name (Optional):

.....

Age:

Gender:

.....

1. Experience and Integration:

- Can you describe your experience using ChatGPT in your news production workflow?
- How seamlessly has ChatGPT been integrated into your daily tasks, and what adjustments have you had to make?
- Have you encountered any challenges or limitations while working with ChatGPT? If so, how have you addressed them?

2. Workflow and Efficiency:

- How has ChatGPT impacted the efficiency of your news production process?
- Can you provide specific examples of tasks or areas where ChatGPT has enhanced or expedited your work?
- Have you noticed any changes in the overall speed or agility of news content creation since the implementation of ChatGPT?

3. Quality and Accuracy:

- How do you assess the quality and accuracy of content generated or assisted by ChatGPT?
- In what ways do you think ChatGPT has influenced the credibility and reliability of news stories produced at NBC?
- Have you observed any instances where ChatGPT has contributed to misinformation or biased reporting? If so, how do you mitigate these risks?

4. Creativity and Innovation:

- To what extent do you believe ChatGPT has impacted your creative process as a journalist?
- Have you found ChatGPT to be a valuable tool for generating new story ideas or exploring alternative angles?
- How do you maintain the balance between leveraging ChatGPT for efficiency and preserving the human touch in storytelling?

5. Training and Support:

- Do you feel adequately equipped to leverage the full potential of ChatGPT, or do you require additional support or resources?
- How do you stay updated on best practices and developments in AI utilisation within the newsroom?



NAMIBIA UNIVERSITY OF SCIENCE AND TECHNOLOGY

In-depth Interview Schedule for Managers:

Student's Full Name	Anna Tashiya Kadhila
Student Number	214002322
Qualification Registered For	Master of Journalism and Media Technology
Supervisor/Qualifications/Affiliation	Dr Hugh Ellis
Supervisor:	PhD Journalism & Media Studies, Rhodes University MA Journalism & Media Studies, Rhodes University BSc Honours Journalism and Media Studies,
Co-supervisor:	Ms Jordaania K. Andima Master of Arts in Multimedia Journalism, University of Westminster, London. Bachelor of Arts in Mass Media Art, University of the District of Columbia, United States.

Information on the participant:

Name (Optional):

.....

Age:

.....

Gender:

.....

1. Strategic Decision-making:

- What factors influenced the decision to integrate ChatGPT into television news production at NBC?
- How does ChatGPT align with NBC's broader strategic objectives for innovation and technological advancement?
- How do you anticipate ChatGPT contributing to the long-term competitiveness and relevance of NBC in the media industry?

2. Resource Allocation and Investment:

- Can you discuss the investment of resources, both financial and human, in implementing ChatGPT at NBC?
- How do you measure the return on investment (ROI) of integrating ChatGPT into the news production process?
- Are there any plans to expand or optimise the use of ChatGPT based on its performance and effects thus far?

3. Ethical and Editorial Considerations:

- How do you ensure that the use of ChatGPT aligns with NBC's ethical standards and journalistic integrity?
- What protocols or safeguards are in place to prevent the dissemination of misinformation or biased content facilitated by ChatGPT?
- How do you address concerns regarding the potential bias or lack of transparency in AI-generated news content?

4. Collaboration and Communication:

- How has the integration of ChatGPT influenced collaboration and communication within the newsroom?
- To what extent are journalists involved in decision-making processes related to the use and optimisation of ChatGPT?
- How do you foster a culture of collaboration between journalists, AI specialists, and other stakeholders involved in news production?

5. *Future Outlook and Adaptation:*

- How do you envision the role of ChatGPT evolving within television news production at NBC in the coming years?
- Are there any plans to explore additional AI technologies or advancements to complement or enhance the capabilities of ChatGPT?
- How does NBC plan to adapt its newsroom practices and workflows in response to the evolving landscape of AI and technology?



NAMIBIA UNIVERSITY OF SCIENCE AND TECHNOLOGY

In-depth Interview/Questionnaire Schedule for Journalists:

Student's Full Name	Anna Tashiya Kadhila
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Qualification Registered For	Master of Journalism and Media Technology
Supervisor/Qualifications/Affiliation	Dr Hugh Ellis
Supervisor:	PhD Journalism & Media Studies, Rhodes University MA Journalism & Media Studies, Rhodes University BSc Honours Journalism and Media Studies,
Co-supervisor:	Ms Jordaan K. Andima Master of Arts in Multimedia Journalism, University of Westminster, London. Bachelor of Arts in Mass Media Art, University of the District of Columbia, United States.

Information on the participant:

Name (Optional):

.....

Age:

Gender:.....

6. Experience and Integration:

- Can you describe your experience using ChatGPT in your daily news production workflow?
- How seamlessly has ChatGPT been integrated into your daily tasks, and what adjustments have you had to make?
- Have you encountered any challenges or limitations while working with ChatGPT? If so, how have you addressed them?

7. Workflow and Efficiency:

- How has ChatGPT impacted the efficiency of your news production process?
- Can you provide specific examples of tasks or areas where ChatGPT has enhanced or expedited your work?
- Have you noticed any changes in the overall speed or agility of news content creation since the implementation of ChatGPT?

8. Quality and Accuracy:

- How do you assess the quality and accuracy of content generated or assisted by ChatGPT?
- In what ways do you think ChatGPT has influenced the credibility and reliability of news stories produced at NBC?
- Have you observed any instances where ChatGPT has contributed to misinformation or biased reporting? If so, how do you mitigate these risks?

9. Creativity and Innovation:

- To what extent do you believe ChatGPT has impacted your creative process as a journalist?
- Have you found ChatGPT to be a valuable tool for generating new story ideas or exploring alternative angles?
- How do you maintain the balance between leveraging ChatGPT for efficiency and preserving the human touch in storytelling?

10. Training and Support:

- Do you feel adequately equipped to leverage the full potential of ChatGPT, or do you require additional support or resources?
- How do you stay updated on best practices and developments in AI utilisation within the newsroom?



NAMIBIA UNIVERSITY OF SCIENCE AND TECHNOLOGY

In-depth Interview Schedule for Managers:

Student's Full Name	Anna Tashiya Kadhila
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- What protocols or safeguards are in place to prevent the dissemination of misinformation or biased content facilitated by ChatGPT?
- How do you address concerns regarding the potential bias or lack of transparency in AI-generated news content?

9. Collaboration and Communication:

- How has the integration of ChatGPT influenced collaboration and communication within the newsroom?

- To what extent are journalists involved in decision-making processes related to the use and optimisation of ChatGPT?
- How do you foster a culture of collaboration between journalists, AI specialists, and other stakeholders involved in news production?

10. *Future Outlook and Adaptation:*

- How do you envision the role of ChatGPT evolving within television news production at NBC in the coming years?
- Are there any plans to explore additional AI technologies or advancements to complement or enhance the capabilities of ChatGPT?
- How does NBC plan to adapt its newsroom practices and workflows in response to the evolving landscape of AI and technology?

Appendix 3: TurnItIn similarity report

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