
AI, Journalism, and Public Interest Media in Africa

Scoping study to map the current state of Artificial Intelligence use in public interest media in Africa.



Author: Prof. George Ogola



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This study was led and authored by Prof. George Ogola, assisted by Prof. Admire Mare. We worked with a team of regional researchers including Mike Owuor, Dr. Jude Ogbodo, Jessica Ahedor, Hilary Mare, Johanna Galela and Admire Masuku. We'd like to thank Dr. Clare Cook for commissioning the project, David Lush for his assistance throughout the research process, Alessandra Baehr for her administrative guidance and the various media actors who participated in our research workshop in Nairobi where we shared some of our preliminary findings.



Contents

4	Foreword
5	Executive summary
6	AI, Journalism, and Public Interest Media in Africa <ul style="list-style-type: none"> ■ Introduction ■ Approach ■ Methods
10	Findings: How African media use AI <ul style="list-style-type: none"> ■ Content/news gathering ■ Content processing ■ Content/news distribution and audience engagement ■ Changing editorial practices and newsroom structures
14	Findings: Challenges facing AI use <ul style="list-style-type: none"> ■ Knowledge gap ■ Resource Constraints ■ Inadequate business strategies for AI ■ Lack of collaboration between media and other stakeholders ■ Scarce and dirty data ■ Concerns over algorithmic harm and job insecurity fears ■ Cultural resistance in the newsroom ■ The gender gap ■ Poor policy and legal frameworks
22	Recommendations <ul style="list-style-type: none"> ■ Addressing the knowledge gap ■ Tackling resource challenges ■ Enhancing collaboration ■ Supporting and lobbying for better AI policy and regulatory frameworks ■ Bridging the gender gap ■ Funding research and innovation including development of local AI tools ■ AI and quality journalism ■ Conclusion
26	References

Foreword

This report is published amidst a frenzy of publicity about artificial intelligence (AI) caused by the emergence of ChatGPT and other similar “generative AI” technologies that can generate text, imagery, sound and data. But, as this report and IMS’ previous study on AI use by media in Latin America and Eastern Europe illustrate, AI has crept largely unnoticed into the workstreams of journalists and their media operations over many years.

Similarly, IMS has tacitly developed a methodology to help both our partners and the organisation harness AI’s potential and mitigate its challenges. First we conduct research - such as the study behind this report - to surface those opportunities and challenges, along with examples of media’s use of AI in a particular region. We then bring together researchers, journalists, editors, fact checkers, media entrepreneurs and technologists, who unpack the research findings and further explore its context-specific applications during workshops that aim to demystify AI and inspire considered steps towards using it to enhance public interest journalism. IMS partners can then apply to IMS’ AI Impact Fund for a small grant that buys them time, tools and expertise to experiment.

The workshop that interrogated the findings of this African study took place in Nairobi in November 2022, and the successful applicant for the first round of funding from the region is already experimenting with tools to automate the editing of videos for their various social media platforms, which should then free up their journalists to do more in-depth journalism.

Some common themes run through this report and the findings of IMS’ previous study of AI use by media in Latin America and Eastern Europe, which was published in 2021. For example,

“In Africa, AI’s biases- caused largely by the lack of African data used for training AI tools are much more pronounced, and the potential for AI to further widen the digital divide is all too apparent.”

AI is changing the ways in which media work, particularly newsrooms in all three regions. Some of the most common applications of AI are in content production and in understanding audience behaviour, with little attention currently given to how AI can help make the business side of media more efficient and productive. And media in all three regions are struggling to identify and retain people with the requisite technological skills.

But there are noticeable differences too. In Africa, AI’s biases – caused largely by the lack of African data used for training AI tools – are much more pronounced, and the potential for AI to further widen the digital divide is all too apparent. Then the fragility of the economies in which most African media operate makes AI-driven click-bait more likely, particularly

given the absence of both ethical and enabling policy frameworks for media’s use of AI also identified by this latest study.

With these and other findings in mind, this study’s lead researcher Professor George Ogola re-iterates the call for collaboration across organisational as well as geographical boundaries that Professor Charlie Becket, the head of the London School of Economics’ Journalism AI project, made in the Foreword to the 2021 report on Latin America and Eastern Europe. In their framing of “public interest media”, Professor Ogola and his team refer to the African concept of ubuntu; an ethos that discretely and purposefully refocuses our attention on the human qualities needed to make AI work for public good, as implied in this interpretation of ubuntu by Archbishop Desmond Tutu during his conversation with fellow Nobel Laureate the Dalai Lama in *The Book of Joy: Lasting Happiness in a Changing World* (p59-60):

“We are wired to be caring for the other and generous to one another. We shrivel when we are not able to interact... We depend on the other in order for us to be fully who we are. (...) the concept of Ubuntu, it says: A person is a person through other persons.”

Our thanks to Prof. Ogola, his colleague Prof. Admire Mare, who led the gathering of data in southern Africa, and their team of researchers for cutting through the hype around AI and getting to what IMS and our partners need to do to ride this latest wave of technological change within the media in Africa and beyond.

Dr Clare Cook: IMS Head of Journalism and Media Viability

David Lush: IMS Senior Advisor for Organisational Learning

Executive Summary

This study highlights the current state of AI use in Africa’s media. It explores AI’s potential in strengthening public interest media through purposively selected country case studies from Eastern, Southern, and West Africa. We employed qualitative in-depth key informant interviews, newsroom observation, and document analysis.

The study found that while there is AI use across several news organisations in Africa, the adoption of AI systems and tools in African media remains relatively low. AI use also varies regionally and across different media, with the most use cases in Kenya and South Africa. The big well-resourced media have invested in several premium AI systems and are also developing several custom-built AI tools. However, most of the smaller media organisations have either not adopted AI into their newsroom processes, or where they have done so, they rely largely on open-source tools. The most used AI systems are functional AI, deployed in content/news gathering, content processing, content/news distribution and audience engagement, and various editorial practices.

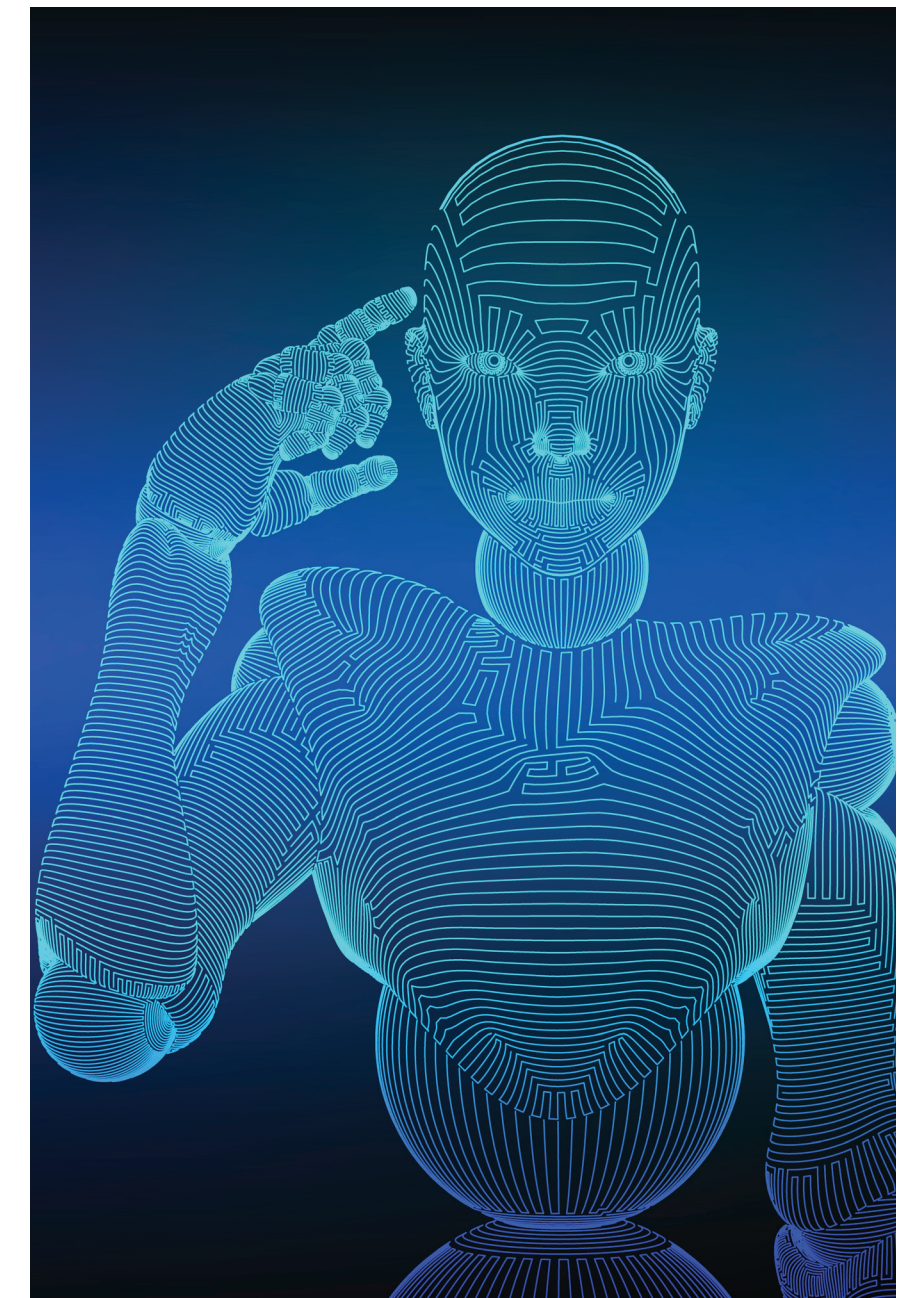
Key challenges facing AI adoption include a notable gap in knowledge about AI, resource constraints, fear of the negative impact of algorithmic systems and professional precarity among journalists, cultural resistance within newsrooms, marginalisation of women in the newsroom, weak policy and legal infrastructure, lack of appropriate AI business strategies, the existence of ‘dirty’ data, and a lack of collaboration among news actors in the continent.

The study concludes that while technology is not the panacea for the chal-

lenges facing African journalism, AI holds significant potential to strengthen the production and distribution of public interest journalism throughout the continent.

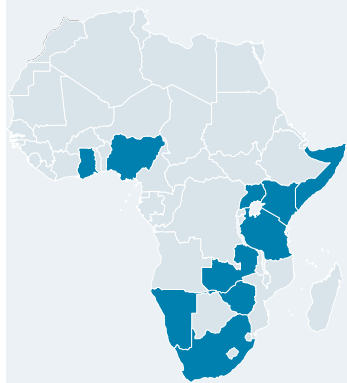
The study offers several recommendations including proposals on how international media development organisations can support African me-

dia in harnessing the potential of AI. This may include, supporting capacity building initiatives to address the knowledge and gender gaps, funding research and innovation including the development of local AI tools, and supporting and lobbying with other media actors for better AI policy and regulatory frameworks in the continent.



AI, Journalism, and Public Interest Media in Africa

CURRENT STATE OF AI USE IN AFRICAN NEWSROOMS



The study focused on purposively selected country case studies from Eastern, Southern, and West Africa. In Eastern Africa, we looked at newsrooms and other media actors in Kenya, Tanzania, Uganda, and Somalia. In Southern Africa, we looked at Zimbabwe, South Africa, Zambia, and Namibia, while in West Africa we focused on Nigeria and Ghana

23%

24%

According to a report by ITU (2022) between 2019 and 2021, internet use in Africa and the Asia-Pacific region jumped by 23 per cent and 24 per cent, respectively

20%

Over the same period, the number of Internet users in the least developed countries (LDCs) increased by 20 per cent

Introduction

In a rapidly changing journalism ecosystem, news media organisations in Africa are increasingly adopting new digital technologies and business strategies to remain relevant, competitive, and sustainable. The digital technological 'revolution,' now nearly two decades old, has necessitated a shift in media path dependencies, prompting changes in newsroom organisational structures and professional practices. Across Africa, many news media are embracing 'digital first' strategies, with several now positioning their digital platforms as their primary brands. Even where such digital shifts remain tentative, most news organisations acknowledge these changes as critical to the continent's media futures. This study set out to understand the use of potentially one of the most 'disruptive' technological developments in the media sector, Artificial Intelligence (AI), in African journalism. We set out to find out the current state of AI use in African newsrooms and explore its potential in strengthening public interest journalism and media. The study focused on purposively selected country case studies from Eastern, Southern, and West Africa. In Eastern Africa, we looked at newsrooms and other media actors in Kenya, Tanzania, Uganda, and Somalia. In Southern Africa, we looked at Zimbabwe, South Africa, Zambia, and Namibia, while in West Africa we focused on Nigeria and Ghana. We used purposive sampling primarily because we wanted to focus in depth on a limited number of samples.

Most scholars offer broad definitions of AI, primarily because of its technical and conceptual complexity. Our approach here is similarly broad. Within the context of journalism and this study, we use AI as defined and operationalised by both Marconi (2020) and Mitchell (2019). According to Marconi (2020), AI refers to "smart machines that learn from

experiences and perform humanlike tasks" (7). In journalism, he talks of AI "augmenting" and not "automating" the industry, arguing that journalists "must adopt a more iterative form of their craft, one that leverages new technologies in order to respond in real-time to the rapidly changing information needs of audiences" (8). Meanwhile, Mitchell (2019) defines AI as "the activity of computationally simulating human activities and skills in narrowly defined domains, most commonly through the application of machine learning approaches, a subfield of AI, in which machines learn from data or their own performance" (8). Using this definition, Simon (2022), notes that "[T]his 'learning' is an important feature: outcomes are 'learned' and iteratively optimised from (new) data or past performance, thus (ideally) improving the system's quality and efficiency at certain tasks over time" (1834).

In the context of news journalism, the most commonly used types of AI are Machine Learning (ML) and forms of Natural Language Processing (NLP). ML is used to develop various AI tools used, for example, in fact-checking and verification, automated transcription and translation, data visualisation, sentiment analysis and opinion mining, among others. Meanwhile, examples of NLP tools include BERT (Bidirectional Encoder Representations from Transformers), Word2Vec, TextBlob and CoreNLP. However, as Simon (2022) notes, many more variants of AI are used by media organisations. It is also important to recognise that although new, and arguably disruptive in new ways, the deployment of AI in journalism is part of what Thurman (2019) describes as a longer historical trend of computational journalism going back decades when the media industry began to give more agency to data and quantification in



storytelling and related professional and organisational processes.

The impact of new media technologies on African newsrooms has been the focus of significant interest in both scholarly works (see Atton and Mabweazara, 2011; Mabweazara, 2015; Madrid-Morales and Ileri, 2021) and industry reports.

Despite operating in challenging political, policy, and legislative environments, new media technologies have contributed to the exponential growth of media in Africa. These technologies have, for example, made entry costs into the sector much lower. They have also enabled the creation of a variety of media 'types' and platforms, particularly mobile-based, notably spurred by increased internet penetration and connectivity in the continent.

Although still lagging behind the Global North, according to a report by ITU (2021) between 2019 and 2021, "internet use in Africa and the Asia-Pacific region jumped by 23 per cent and 24 per cent, respectively. Over the same period, the number of Internet users in the least developed countries (LDCs) increased by 20 per cent and now accounts for 27 per cent of the population (2)." However, there was a notable gender as well as rural-urban divide in internet use. Statistics on internet use, connectivity and penetration

tend to vary depending on the source of the data, but it is broadly the case that these rates are typically higher than the LDCs average in South Africa, Kenya and Nigeria, countries which have also seen the most growth in their media sectors.

In addition, these technologies have disrupted various economies or mechanisms of control previously used by many governments to frustrate media pluralism. Many such controls can now be easily circumvented.

This growth has created new opportunities for media growth and public engagement, providing news organizations with new ways of interacting with their audiences and distributing their content. However, these opportunities have also brought about new challenges. New media technologies have incubated a more diverse and open information ecology, with multiple actors, of varying sizes and interests, expanding the public sphere, but also undermining it. This new ecosystem has fostered the emergence of new actors, some with little regard for gatekeeping processes, which have traditionally ensured professional accountability. As a result, Africa has seen an explosion of misinformation practices, incentivised by weak policy and legislative environments, and algorithmic systems that encourage the virality of stories, their authenticity notwithstanding.

Due to inadequate investment in gatekeeping processes such as fact-checking by the big tech companies, coupled with weak legislative regimes, misinformation practices thrive in Africa's digital spaces. Meanwhile, revenues have declined as advertisers shift their spending to the many emerging digital platforms and actors. In some countries such as Rwanda, Uganda, Tanzania, and Kenya, the state being the largest single advertiser is leveraging advertising revenue to control the media, introducing new forms of censorship. New threats to media plurality and public interest journalism are therefore emerging.

In exploring some of these issues, discussions on the intersection between the media and technology in developing world contexts have tended to focus on issues such as ICT access, digital divides, internet freedoms, and internet connectivity. Although important, we found it essential to further seek to understand how these factors shape the use of these technologies within the context of public interest media. The study thus draws on empirical evidence gathered from a range of stakeholders and actors in the media space in Africa to understand how AI is understood within the sector, how it is used, what determines its use, and therefore its prospects in African newsrooms and public interest journalism.

Approach

Scoping study to map the current state of AI use in public interest media in Africa.

We began by conceptualising the notion of public interest media in Africa to enable us to operationalise its application in the project. The idea of ‘public interest’ remains contested. The decline, particularly of the print media over the last decade has seen the re-emergence of this debate as media ‘publics’ fracture due to the plethora of new media technologies facilitating new forms of journalism and platforms. As a result, we have seen the emergence of new models for public interest media (Carvajal, Garcia-Aviles, and Gonzales, 2012). In Africa, Foundation-funded and NGO-funded media, and private media, among other non-traditional public media actors have become key players in public interest journalism.

The general understanding and

structure of public interest media in the Global North is relatively stable. As Rodney-Gumede (2014) notes, “defining public interest is easier in relatively homogenous societies and evidentially harder in more heterogenic societies” (123), with tortured political histories such as Africa. In the Global South, definitional boundaries of public interest media remain notably loose. There have been long-running tensions on the competing notions of ‘public interest,’ ‘national interest,’ and ‘nation building’, and which ‘interest’ the media ought to privilege (See Rodney-Gumede, 2014). These notions muddy any singular conception of public interest media. One must attend to a range of historical, political, economic, and cultural factors, and traditions to establish useful definitional parameters, which in many cases also vary from

one country to another. In Kenya, Zimbabwe, and Tanzania, for example, it is the private media that primarily play the role of public interest media. This is alongside several non-traditional media actors, most notably NGO and Foundation-funded media. The public-funded media in these countries such as the Kenya Broadcasting Corporation (KBC), the Tanzania Broadcasting Corporation (TBC), and the Zimbabwe Broadcasting Corporation (ZBC), are all directly controlled by the government, and usually operate as arms of the ‘party-state’. Meanwhile, in South Africa, despite a strong constitutional provision for the existence of public interest media, operationalised through the South African Broadcasting Corporation (SABC) and various community media, indirect government control remains visible. The SABC

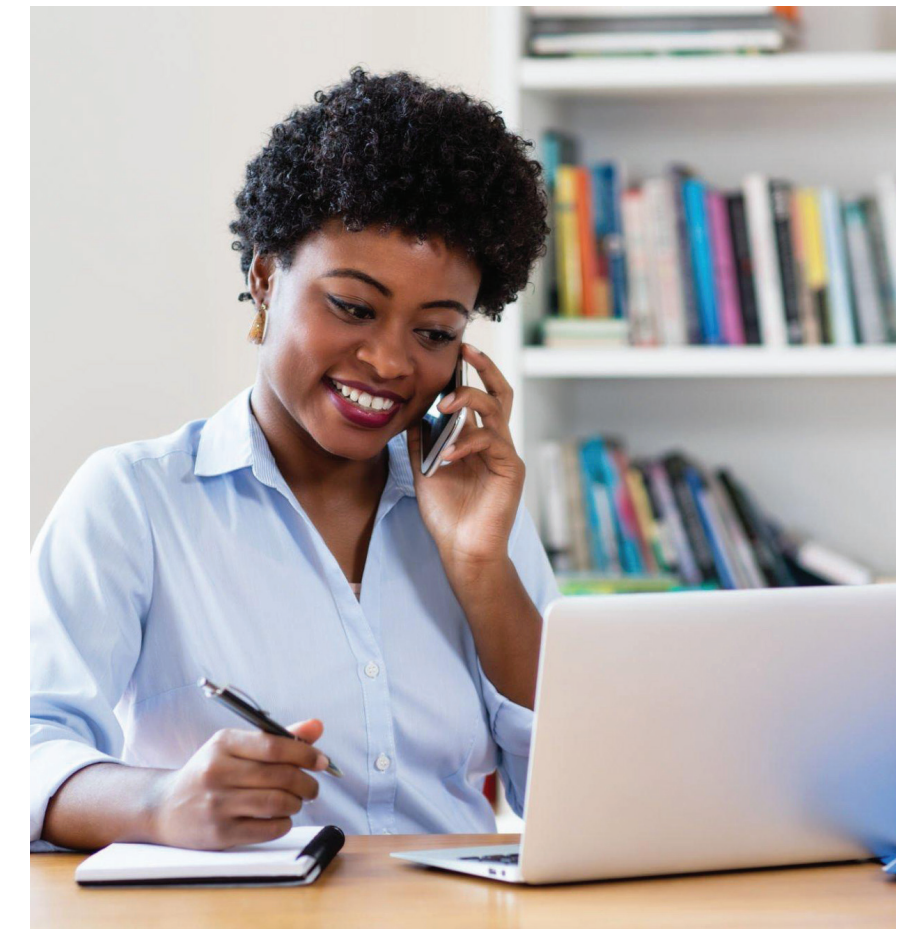


board of directors is appointed by the President usually after Parliamentary approval. The South African parliament is however dominated by the ruling African National Congress (ANC).

Problematising our understanding of public interest media was important as it helped determine our samples. It enabled us to focus more on media engaged in public interest journalism, which tended to be private and independent media, rather than public-funded media, most of which despite being established by statute, were either directly or indirectly controlled by governments. Importantly too, this helped shape our research questions.

We concretised our objectives in the form of the following interrelated research questions:

- How well is AI understood within the African media landscape?
- How are AI technologies used in Africa’s public interest media? Are they changing or reconfiguring everyday newsroom practices and routines across the continent?
- What are some of the challenges facing AI adoption in Africa’s public interest media and how can these be addressed?
- What is the state of data accountability mechanisms including legislation, policy, and governance in the continent?
- What are the prospects for AI use in Africa’s public interest media?



Methods

The study used in-depth qualitative Key Informant Interviews (KII) of key stakeholders/informants, newsroom observation, and document analysis. Key Informant Interviews are a qualitative research method that involves gathering information from individuals who are experts or knowledgeable about a particular issue or topic. These individuals are considered “key informants” because of their experience, expertise, or position and are often identified through purposive or snowball sampling. Key Informant Interviews typically involve a structured or semi-structured interview format, in which the researcher asks open-ended questions to gather in-depth insights and perspectives about the research topic. The resulting data can be used to understand the key issues, challenges, and opportunities related to the topic of study, as well as to inform the development of research questions, hypotheses, or conceptual frameworks.

The key informants in the project included news reporters, news editors, digital editors, audience engagement editors, media managers, data specialists, fact checkers, and media scholars. In total, we carried out 30 Key Informant Interviews across 10 countries and conducted three newsroom observations in three different newsrooms in Eastern, Southern, and West Africa.

In applying document analysis, we carried out a systematic review of published academic literature on the broader subject area, industry reports and various grey literature to identify any recurring themes or patterns in the data, some of which helped inform our findings. As Wimmer and Dominick (1989) observe, methodological triangulation helps build confidence in a research project’s findings. Cross-validation of the findings was therefore done through our triangulated methodological approach.

Findings: How African media use AI

Relative to much of the Global North, the uptake of AI in Africa remains low. As Ade-Ijibola and Okonkwo (2023) observe, "... many countries in Africa are still lacking the necessary infrastructure, governance, data ecosystem, STEM education, and other factors necessary for AI"(102). Yet there is growing optimism about AI use across several sectors of the African economy, even if this is simultaneously tempered by an equally growing "fear of the unknown", as one respondent put it.

While the general observation alluded to above by Ade-Ijibola and Okonkwo was also broadly true within the context of this study, we found several important AI use cases across many media organisations in the continent, reflecting a diverse, growing, and nimble information ecosystem and emerging journalistic practices. The use of AI tools however varied regionally and across media in different countries. There was better awareness and more engagement with AI tools by media organisations and other actors in Kenya and South Africa than in the other countries we looked at. It is notable that these countries have already deployed some AI systems across various sectors such as health, education, governance, and financial services and therefore have some basic infrastructure in place.

The bigger well-resourced media have invested in several premium AI tools such as Datamnr, Brightcove, the premium versions of Chartbeat, among others, and developed their own tools, while the smaller mainly digital-native media commonly use open-source tools. We however found the latter much more agile in their technological uptake and were more likely to adapt

and experiment with new AI tools. This was the case with Tuko.co.ke in Kenya, for example. Such smaller media brands worked with tools such as CrowdTangle, Google analytics, Apache Spark, Disqus, among others.

Among the big media organisations, there was a notable appetite for digital transformation even if changes were significantly slow. Being part of much bigger business concerns as is often the case with most big media organisations, some of these organisations such as the Nation Media Group have centered digital 'innovation' as a key plank of their transformation strategy. Others expressed plans to explore AI in their news operations. Namibia Media Holdings (NMH) expressed their intention to integrate AI into their content distribution across their portfolio which include the Namibian Sun, Republikein, and Alge Meine Zeitung. This was the case across most news operations in the three regions.

We also identified a growing number of locally built and customized AI tools developed either by local news organisations or the fledgling tech communities in Kenya, South Africa, Nigeria, and Ghana. These ranged from AI bots to fact-checking AI tools. A particularly interesting one was 'Dubawa Audio', which is being developed by Dubawa, a fact-checking organisation with a presence in Nigeria, Ghana, Sierra Leone, Liberia, and The Gambia, to fact-check audio-based stories particularly on radio as this remains the most widely used media platform in the continent.

Broadly, across various media, the most used AI systems were functional AI. These are typically AI that can perform specific tasks and solve

problems like humans would. For example, they scan huge amounts of data, search for patterns on such data and take action. These AI systems were deployed in news gathering, content processing, news distribution and audience engagement, and core editorial practices.



Content/news gathering

Most media in our sample have integrated 'social listening' tools into their newsroom processes to track stories circulating online, gather information and generate story ideas. Social listening tools are software that monitor online conversations, typically on social media, and pick keywords, hashtags, phrases, mentions, names, as well as the level of audience engagement. Among the most used tools were CrowdTangle, Datamnr, Newswhip, Tweet deck, Hootsuite, and Google Trends. In several cases, these tools were beginning to shape editorial 'beats'. Journalists were increasingly being told by editors to

cover stories or story ideas likely to generate more traffic. This suggests that traffic conscious editors are increasingly pushing their journalists to align their stories with what interests the public, rather than public interest stories. By public interest stories, we refer to stories with a civic value, those consistent with the media's watchdog role and which help in the creation of an informed citizenry. The public interest dimension of journalism is unfortunately being sacrificed in pursuit of clicks, eyeballs and browse through rates. This observation was confirmed in Namibia, South Africa, and Zimbabwe.

Content processing

One of the most popular content processing tools used by several media organisations was Chartbeat. Most news organisations used it for headline testing and content optimisation. There was also widespread use of AI powered fact checking tools such as Reverse Search, TinEye, RevEye, InVID, and Citizen Evidence Lab. Fact-checking seemed to have been firmly integrated into newsroom processes with most media organisations having fact-checking teams. Those media organisations without such teams regularly worked with bigger fact-checking organisations such as Africa Check, Pesa Check, Namibia Fact Check, Zim Fact, and Dubawa.

"AI adds value to fact-checking- speed, precision and scale." (Fact checker).

There seemed to be a well-resourced fight against misinformation and disinformation funded by international media development organisations either working directly with media organisations or through national media associations. These organisations have resourced most media organisations with various AI powered fact checking tools. Some media organisations have also partnered with local tech communities to build, for example, fact-checking bots. Code for Africa for example built Debunk Bot, which fact-checks claims shared on social media. In West Africa, Dubawa, as noted previously, is developing Dubawa Audio, which is likely to be a game changer in fact-checking as it will not only be one of the first such tools built in Africa but will also be focusing on a medium that remains the most widely used in the continent.

"AI adds value to fact-checking- speed, precision and scale."

(Fact checker)

“We realise that a lot of false information is being spread on radio and nobody seems to be monitoring it. So, we want to create a tool that can use algorithms to identify and fact-check false information on radio.”
(Fact checker)

Most media organisations also saw fact-checking as a way of strengthening the credibility of their media brands, hence were investing in AI powered fact checking tools.

“We have become like gatekeepers on the information integrity in Ghana.”
(Fact checker)

Magamba Network in Zimbabwe developed a fact-checking chatbot to identify cases of Covid-19 misinformation and disinformation and were planning to build another bot to identify cases of electoral fraud.

Others like PesaCheck have not only developed a chatbot for fact-checking but also other data driven tools for both the media and public to get access to, for example, government budgets and census/demographic data (PesaYetu), how governments are spending public taxes (TaxClock) and checking on delivery promises by politicians as way of holding them accountable (Wajibisha or PromiseTracker).

“We realise that a lot of false information is being spread on radio and nobody seems to be monitoring it. So, we want to create a tool that can use algorithms to identify and fact-check false information on radio.” **(Fact checker)**.

Content/news distribution and audience engagement

It is in content distribution and audience engagement where media organizations, both large and small, deployed AI tools the most. As most news organisations adopt reader revenue models, they have been forced to explore alternative news distribution practices and to understand their audiences better. We found that most media organisations have adopted the use of various audience analytics tools, both premium and open source. The most used tools included Chartbeat, SmartOcto, and Google Analytics. In Southern Africa, we also found that tools such as Content Insights, Eco-Box, Alexa, Brightcove, and Disqus are used by most newsrooms. These tools and platforms provide several insights into audiences, for example, what they are reading, how long they are engaging with content, on what platform, and their profiles based on age, interests, and other data points. The premium versions of some AI tools such as SmartOcto and Brightcove can also be customised to address the specific needs of a news organisation.

At the NMG in Kenya, a computer display screen of Chartbeat is located at the centre of the newsroom, giving editors and journalists real-time information on how their stories are performing. They are able to see which stories are being read, on what platforms, and the level of audience engagement. In South Africa, Namibia and Zimbabwe, similar observations were made at some well-resourced newsrooms. The Chartbeat dashboard has become a must have for most newsrooms.

There has also been growing interest in audience engagement bots. In Tanzania, Dau Technologies has developed a reader (text-to-voice AI technology) which is used by subscribers to read English and Kiswahili newspapers. Meanwhile, Mozilla’s TTS while not developed in Africa, has also been used by several media organisations on the continent. The NMG developed an audience engagement bot called Kiki although this is not currently operational. Several newspapers across the three regions now have audience



Journalists during an IMS sponsored workshop on AI in newsrooms in Nairobi, Kenya. [Photo: Ken Miseda]

engagement chatbots which operate across multiple platforms including Facebook, Telegram and WhatsApp. Meanwhile, we found that most media were increasingly using their social media sites to receive audience feedback instead of their online comments sections. This was because AI tools can easily harvest and filter feedback from social media sites, which can then help inform subsequent editorial or other organisational decisions.

Changing editorial practices and newsroom structures

Where media organisations have integrated AI tools into their newsroom practices, these tools have had a significant impact on everyday editorial practices and newsroom structures. Across many such media, we found that data collected by AI tools now both directly and indirectly, inform editorial decisions. The interactions and intersections between AI and journalism are thus challenging traditional roles and workflows in newsrooms. While there is still no evidence of AI-exclusive roles in African newsrooms, new roles have been created for those from non-journalistic backgrounds. We found media organisations across the three regions had introduced roles such as

audience engagement editor, social media editor, data manager, data/audience/analytics teams among others. These roles have been integrated into the news production processes with data scientists, software engineers, user experience (UX) designers, data visualisers, product leads, and developers now part of editorial teams.

Interestingly, there has also been a physical remoulding of some newsrooms. Data displays and ‘data teams’ are increasingly being given physical prominence in newsrooms. This is the case at the NMG and most newsrooms in Southern Africa.

“Artificial Intelligence is a faster, more effective way of getting things done in the newsroom. There’s a reduction in actual manpower... it is progressive, it is the future, it is the way to do many things more efficiently, and the adaptability of AI into the newsroom is crucial because our newsrooms, especially in Nigeria are largely archaic...” **(Reporter)**

Findings: Challenges facing AI use

Knowledge gap

Our interviews revealed that the level of AI literacy in most newsrooms and among various media actors and stakeholders in Africa is still low. It is even lower in countries emerging from political conflict such as Somalia where the conversation is still around the attainment of basic traditional journalism skills considered necessary in producing quality journalism. In such contexts, AI literacy is not considered particularly urgent.

Elsewhere, in Namibia and Zimbabwe many journalists are still to come to terms with AI as a concept. Several respondents in these countries pointed out that AI “is something that is being talked about in conferences organised by media development agencies and platform companies”.

Across the three regions, there was a limited and varied understanding of AI, which inevitably affected meaningful engagement with AI technologies. While some respondents focused on the technical definitions of AI the majority pointed to its functional aspects. Most respondents pointed to AI’s inherent ability to make certain journalistic tasks easier and faster through automation. In many cases, there was a general conflation of AI with automation.

For many respondents, AI was also broadly seen as a singular, undifferentiated ‘thing’, several describing it as a ‘robot’ that was capable of “replacing the human mind to get something done”.

One respondent described it as “... technology we employ to do the work we do or to make the work we do easier.” (Reporter).

This knowledge gap contributed to the failure of news organisations and other stakeholders to fully recognise the potential of AI in journalism.

This was compounded by the financial resource limitations which made it difficult for news organisations to upskill their staff on AI knowledge and competencies. Newsrooms in Southern Africa were quite clear that there is little being done at the organisational level to discuss the implications of the intersection between AI and journalism.

Most respondents explained this poor understanding of AI as the failure of journalism schools in Africa to critically engage with emerging media technologies in their curricula. This was a major concern across the three regions. Respondents observed that journalism training was still mostly focused on traditional reporting skills with little attention given to changing professional practices as shaped by technology. Such schools they noted also lacked the necessary technical infrastructure and skills capacity among staff to deliver effective training on AI and its intersections with journalism.

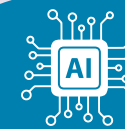
They also pointed to the lack of opportunities for upskilling/training within newsrooms. Many respondents observed that the prohibitive cost of AI technologies meant few media organisations had the financial wherewithal to invest in upskilling their staff or in the technology.

“There are not many organisations that train journalists or invest in the use of AI. In fact, there are many organizations who don’t even bother about that especially when it comes to print media.” (Reporter)

For many respondents, AI was also broadly seen as a singular, undifferentiated ‘thing’, several describing it as a ‘robot’ that was capable of “replacing the human mind to get something done”.



Catherine Gicheru gives a presentation at an IMS sponsored workshop on AI in newsrooms in Nairobi, Kenya, November 2022. [Photo: Ken Miseda]



Five most commonly used AI tools

- CrowdTangle
- Dataminr
- Google Analytics
- Reverse Search
- Chartbeat

Resource Constraints

While there is notable interest in AI in African newsrooms, failing media business models means most media organisations are facing significant financial difficulties. Most lack the resources to meaningfully invest in the use or development of AI tools. Those media organisations which have actively embraced AI tools tended to be the well-resourced ones that were also part of much bigger conglomerates with diversified business portfolios. For example, the Nation Media Group (Aga Khan Development Network

Foundation) News 24 (Naspers), IOL, Star (Independent Media (Pty)), Sunday Times, Business Day (Arena Holdings). These organisations are actively investing in AI and skilling some of their workforce.

However, even such organisations experienced challenges in retaining skilled staff. Staff attrition of data scientists and other IT personnel was especially high as other sectors tended to offer them better remuneration.

“Most people who are tech-savvy and into Artificial Intelligence will charge you more just because they know their worth... You need to invest, and you know it’s going to cost you money... that’s a challenge that I think has affected the penetration of AI in the Nigerian media ecosystem.” (Editor)

Meanwhile, building and maintaining AI tools was considered both long and expensive. According to one Key Informant, even with in-house

“There are not many organisations that train journalists or invest in the use of AI. In fact, there are many organizations who don’t even bother about that especially when it comes to print media.” (Reporter)

“Most people who are tech-savvy and into Artificial Intelligence will charge you more just because they know their worth... You need to invest, and you know it’s going to cost you money... that’s a challenge that I think has affected the penetration of AI in the Nigerian media ecosystem.” (Editor)

expertise, staff were not always given time and resources to refine or develop prototypes. Others argued that the poor state of the broader infrastructure such as low and unreliable connectivity and power supplies were undermining the use of AI tools. The issue of loadshedding (interruption of electricity supply) especially in South Africa and Zimbabwe was mentioned as complicating the uptake of AI tools. Some of the newsrooms have started making significant investment in acquiring and installing alternative power generation equipment such as solar and diesel generators.

Inadequate business strategies for AI

Most editors and media managers acknowledged that they had not yet embedded AI-focused strategies into their business plans because, as one editor put it, they “still do not fully understand the potential impact of AI in journalism”. In many cases, therefore, engagement with AI tools was not driven by organisational strategy, but by individual journalists. In several organisations AI use was experimental and inconsistent.

“While there is acknowledgment that the media industry is leaning towards digital, they regard this as merely going online without consideration of integrating enhanced forms of technology that AI has induced in the media landscape.” (Reporter)

The focus for several media organisations was the broader digital transition and not specifically AI integration into newsroom processes. It seems that this digital transition was failing to deal with some potentially significant strategic considerations. We found that there was widespread perception in many organisations of AI as a singular undifferentiated and expensive technology. While it is true that the better resourced media organisations had invested in AI technologies much more than the smaller brands because they had the resources to do so, it was also the case that the former had in fact carefully identified and only invested

in AI tools for specific use cases. They were deploying different AI tools to help ‘solve’ different ‘problems’. For example, using specific tools to crunch large datasets hence saving time and freeing up journalists to do other things, employing fact-checking tools to ensure the stories are authentic, using AI tools to optimise their paywalls leading to more subscriptions which in turn generates the organisations more revenue. Although in need of further interrogation, it is arguable that purposeful use of AI as part of a suite of other activities could potentially contribute to media viability. It is important that we understand media viability as more than just financial sustainability, to include the broader economic and political environment as well as internal processes which enhance a news organisation’s capacity to produce quality ethical journalism. (See Hollifield, Moore and De Roy, 2020).

For many of our sample news organisations shrinking revenues and rigid newsroom structures and practices meant there was little space for “discretionary spending on such niche technologies”, as one editor put it. For the smaller media organisations that had consciously incorporated AI into their newsroom practices, decisions on AI use were often delegated to digital editors, most of whom did not have operational independence or strategy budgets.

“While there is acknowledgment that the media industry is leaning towards digital, they regard this as merely going online without consideration of integrating enhanced forms of technology that AI has induced in the media landscape.” (Reporter)

Lack of collaboration between media and other stakeholders

There was little evidence of collaboration between media organisations and other actors/stakeholders within the wider emergent news ecosystem, which now includes the tech community, media innovation hubs, universities, and policymakers, making the development, adoption, and scaling of AI technologies difficult.

Media innovation hubs have sprung up across the continent. Examples include The Innovation Centre at Aga Khan University, iHub at Strathmore University, JamLab at the University of the Witwatersrand, South Africa, Code for Africa (CfAfrica), which is a data journalism and civic technology initiative with a presence in Kenya, Nigeria, and South Africa, among many others. However, we found little evidence of collaboration, especially on AI between these hubs and local media. Yet these hubs have the capacity to experiment, innovate, develop, and test AI prototypes. There was also an absence of cross-country collaborations.

We, however, noted instances of emerging collaboration initiatives, particularly between fact-checking organisations and several news organisations across all three regions. We found existing collaborations between media organisations and leading fact-checkers Africa Check, Namibia Fact Check, ZimFact and Dubawa. The fact-checking organisations were also collaborating with other research organisations such as the Digital Forensics Research Lab, which is funded by Atlantic Council. Most of these fact-checking organisations are affiliated to the International Fact-Checking Network (IFCN), which means that they can tap into a wider pool of technological and human resources. As noted previously, we found that there has been significant financial and material investment toward fact-checking to tackle misinformation practices across the continent. Most of these initiatives were funded by international media development and human rights organisations.

Scarce and dirty data

‘Dirty data’ is a term used to refer to incomplete, inaccurate, and inconsistent data. Our expert respondents who included data scientists noted that the existence of ‘dirty data’ across the continent made of such data unusable or unreliable. AI tools rely significantly on digital data. There were fears that using poor quality data would ultimately erode public trust in media organisations and in the journalism that they produce.

In addition, several respondents argued that in many African contexts data does not commonly exist in digital forms and that even where it does, storage and management tend to be poorly done which thwarts AI application. Respondents noted that governments hold much of the existing digital data on education, health, and economic development, for example, yet do not always share it freely or openly. They either refuse to share such data or deliberately make it inaccessible, especially to the media. A respondent from Zimbabwe, for example, noted that in the last elections, those who

wanted a copy of the voters’ roll in the country were asked to pay USD 187,000 by the Zimbabwe Electoral Commission (ZEC), a sum unaffordable to many media organisations and individuals. The trend continues as the country prepares for the 2023 elections. Several organisations have taken the electoral management body to court over the timeous release of the voters roll. The courts have generally ruled in favour of ZEC despite the voters’ roll data being of public and national interest.





Concerns over algorithmic harm and job insecurity fears

Many media workers, particularly journalists raised concerns about the threat of algorithmic bias. Having been trained using datasets from contexts in the West, which in several cases had already revealed inbuilt biases, particularly racial, several journalists questioned the integrity of AI tools in news-making contexts in Africa. How would they address the myriad social, economic and political divisions and other complexities within the African context? A related concern was about accountability and legal liability for AI systems. In 2021 South Africa granted a patent to an AI rather than a human being, raising ethical questions about granting AI legal personhood and potentially creating loopholes for companies and developers to avoid legal and financial responsibility where AI causes harm.

“...If AI is able to write a story, who is supposed to have recognition for that story? The AI itself, the person that developed the AI, or the editor that quickly runs through what the AI has put together. Who is supposed to have

the by-line?” (Reporter)

Respondents raised questions about AI and legal personhood as well as AI and liability for damage. “... [T]he major risk is the possibility of machines making mistakes. AI is trained to be accurate but of course, you can’t take out the fact that this is a machine, and even if the information is not accurate, the machine, sometimes, might not be able to identify this, and before you know it, the false information is out,

and you start asking, who takes the responsibility.” (Reporter)

Several respondents also feared that the mainstreaming of AI in newsroom processes would exacerbate inequality, citing the fact that the region was already so unequal in terms of access to digital resources, and digital literacy. Relying on trending stories for example would potentially mean less coverage of public interest stories focusing on the already marginalised. If not

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ethically used, news organisations risked institutionalising what has been referred to as ‘digital redlining’, which broadly refers to the practice of discriminating against marginalised people and identities through digital data.

There were also concerns about the implication of using AI tools that dominantly ‘speak’ English. Applying the logic of representation within the context of multilingual societies in Africa would be problematic. While there are now several AI tools that can work with local languages, they remain outliers.

“CrowdTangle... doesn’t identify false information spread in local languages.” (Reporter)

Many respondents also complained about the creation of ‘filter bubbles’, for example, through social media recommender systems in news distribution, with the potential for instigating or animating existing social and political divisions in various parts of the continent.

AI was also seen to be responsible for incentivising mis and disinformation practices. In some instances where news organisations are primarily focused on eyeballs and browse through rates to generate traffic, gatekeeping processes are generally weakened enabling the spread of false news.

Cultural resistance in the newsroom

Many journalists expressed fear of being ‘replaced’ by AI systems and were therefore reticent or cautious about embracing AI. But there was also a general reluctance to change. As one respondent put it, most editors and senior journalists who had practiced for long were “set in their ways”. Change was viewed more as a challenge to their expertise and authority rather than an attempt to do things differently.

“... People who are afraid of losing their jobs do not want to go through

the hassle of proving themselves, especially in this new world that is technology-driven. So, ... they try to discourage the adoption of the technology and tell people how they’re going to lose their jobs... this doesn’t happen to the journalism profession exclusively. It’s also happening in the banking sector...” (Reporter).

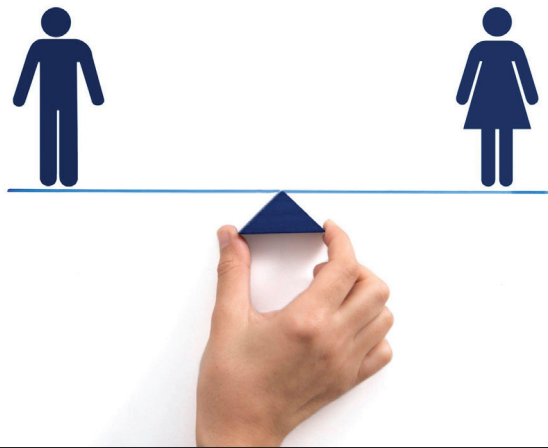
“AI is shaping every sector and journalists have to adjust to this new reality and better ourselves. Many journalists don’t want to break out of their existing style of journalism. If you can’t handle the new normal as a journalist, you change professions.” (Reporter)

Many journalists appeared torn, at once acknowledging the inevitability of AI driven change, at another reluctant to embrace it.



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“AI is shaping every sector and journalists have to adjust to this new reality and better ourselves. Many journalists don’t want to break out of their existing style of journalism. If you can’t handle the new normal as a journalist, you change professions.” (Reporter)



“... women enjoy less access to ICTs... [T]hey do not have access to this technology dues to inadequate infrastructure, affordability, availability, language barriers, illiteracy and even discriminatory social norms”.

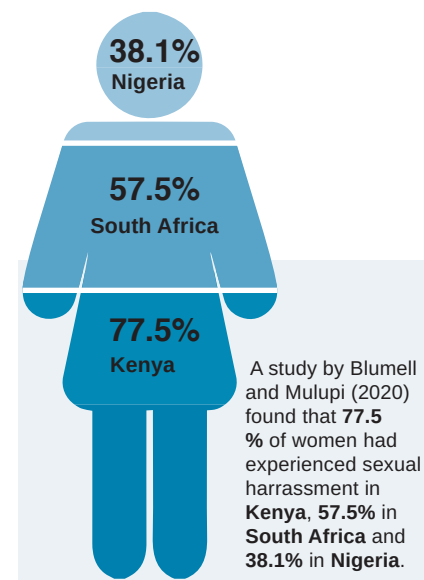
The gender gap

The gender gap in African newsrooms remains a major concern in the media industry, with women significantly underrepresented across all levels of employment. According to a report by Kassova (2020a), the proportion of women in top management roles in Kenya was 35%, and 25% in South Africa even though 45% of journalists in the country are women. The causes of this disparity are varied and complex but include systemic gender discrimination, unequal pay, and job insecurity. This disparity was evident in this study too. Even with a purposively driven sampling method, most respondents who qualified to be our KIIs were predominantly male. The decision-makers within most of the newsrooms were male as were the journalists. This was also the case for the emergent new roles such as audience engagement editors, UX designers, data visualisers, and data scientists. Institutionalized practices of gender exclusion were therefore being baked into new journalistic practices and newsroom structures. An AU report (2015) noted that “... women enjoy less access to ICTs... [T]hey do not have access to this technology dues to inadequate infrastructure, affordability, availability, language barriers, illiteracy and even discriminatory social norms” (1). The report further argued that these “struggles are derailing the potential of ICTs in empowerment of women” and yet there were “existing gaps... and weak or no specific gender provisions in media laws and policies.” (Ibid.)

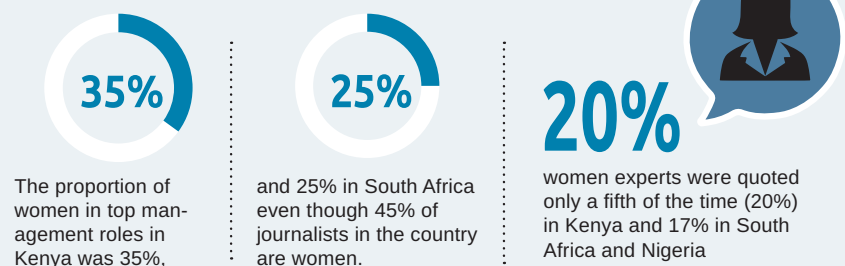
This marginalisation has also been the case in women's news coverage both as subjects as well as experts in news stories. Kassova (2020b) carried out a content analysis of media coverage of the Covid-19 pandemic between 1 March 2020 and 15 April 2020 and found that women experts were quoted only a fifth of the time (20%) in Kenya and 17% in South Africa and Nigeria. Other studies have found sexism rife in several newsrooms. A study by Blumell and Mulupi (2020) found that 77.5 % of women had experienced sexual harrasment in Kenya, 57.5% in South Africa and 38.1% in Nigeria.

With such structural barriers and inequalities, unless there is a carefully considered and gendered integration of AI tools into newsroom practices, women's marginalisation will be exacerbated.

Sexual Harrasment Survey



Women in Top Management



Poor policy and legal frameworks

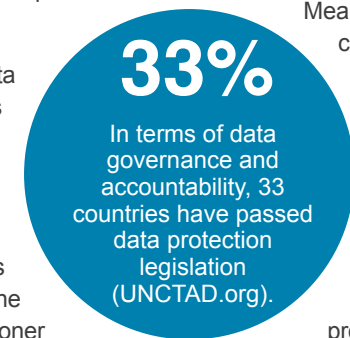
We found that there are relatively strong legislative frameworks and other soft instruments in the form of policies and declarations at the continental, regional, and national levels which should provide the basis for an effective legal and governance framework for AI in Africa. However, as of 2022, only three African countries - Mauritius, Rwanda, and Egypt - had developed and adopted comprehensive national AI strategies. In Southern Africa, the SADC Model Law on Data Protection was beginning to influence national data protection acts and bills (UNESCO, 2022), but no country in the region had developed a national AI strategy. Zambia, Botswana, and South Africa were however all “investing in centres and institutions to build regulatory and technical capacity in AI” (Ibid.). Namibia and South Africa have appointed presidential commissions on Fourth Industrial Revolution (4IR), which have investigated the implications of AI on various sectors of the economy. These commissions have been instrumental in kickstarting conversations around AI strategy and policies. As an offshoot of its Presidential Commission, South Africa has established the Artificial Intelligence Institute of South Africa (AIISA) at the University of Johannesburg and AI hubs at Tshwane University of Technology.

In terms of data governance and accountability, 33 countries have passed data protection legislation (UNCTAD, 2023). The rest had either draft legislation or no legislation at all. Some of the data legislation include among others: South Africa (Protection of Personal Information Act, 2013); Kenya (Data Protection Act, 2019); Tunisia (Law on the Protection of Personal Data, 2004); Morocco (Law on the Protection of Individuals with Regard to the Processing of Personal Data, 2009); Senegal (Law on the Protection of Personal Data, 2008); Ivory Coast (Data Protection Law, 2019); Mauritius (Data Protection Act, 2017); Ghana (Data Protection Act, 2012); Uganda (Data Protection and Privacy Act, 2019); Egypt (Data Protection Law, 2020); and Zimbabwe (Data Protection Act, 2021).

In most cases, however, legislation was largely adapted from European Union (EU) legislation. While many

conform with international practice on data legislation, they also fail to address local contexts. Kenya, for example, passed the Data Protection Act in 2019 after years of procrastination. But this was only done to align local data laws with the EU's General Data Protection Regulation (GDPR) to protect trading relations.

Kenya's data legislation is thus broadly a replica of GDPR and has several weaknesses. For example, while the law creates the Office of the Data Commissioner with sweeping powers to investigate data breaches, compliance remains poor as the commissioner has little capacity to enforce the regulations. (Ogola and Cheruiyot, 2022). The Act also contains local provisions that easily facilitate government surveillance and other forms of state control. Meanwhile, Zimbabwe's Data Protection Act borrows heavily from the SADC model law. The Act requires the Data Protection Authority to put in place regulations that shall govern the whistleblowing system, guided by principles that include fairness and lawfulness. It imposes stiff penalties for intentional sharing of false news and information. One of the provisions of the Act stipulates that “any person who unlawfully and intentionally, by means of a computer or information system, makes available, broadcasts or distributes data to any other person concerning an identified or identifiable person knowing it to be false with intent to cause psychological or economic harm, shall be guilty of an offence and liable



to a fine not exceeding level 10 or to imprisonment for a period not exceeding five years.” In nearly all cases, the data legislations contain vague provisions that facilitate state surveillance without reasonable safeguards against potential abuse.

Meanwhile, in virtually all the countries we looked at, there was a general lack of public and media participation in policymaking around AI legislation leading to breaches, non-compliance, and a general lack of oversight of AI systems. By retaining proprietary rights in AI applications, tech companies undermine any meaningful transparency mechanisms.

“I don't think that even the journalists using the AI tools understand the privacy policy and all that much. Unfortunately, the government of Nigeria and the media are not doing enough to engage the tech giants or providers of AI.” (Editor)

Journalists and other media actors were generally not familiar with the policy and legislative environment or debates relating to AI. Participation and lobbying for effective regulatory mechanisms were instead largely done by the fledgling tech communities and civil society, with little influence over policy directions.

As a result, as a UNESCO report (2022) observed, there was limited public information regarding how AI systems worked. Many people therefore see AI as being very distant from their everyday lives.

“I don't think that even the journalists using the AI tools understand the privacy policy and all that much. Unfortunately, the government of Nigeria and the media are not doing enough to engage the tech giants or providers of AI.” (Editor)

Recommendations

Addressing the knowledge gap

AI literacy remains critical in Africa. The integration of AI into newsroom practices and processes will depend on how well AI is understood by journalists, editors, and media managers. As Maedche et al. (2019) argue, optimal use of AI requires a trained workforce. Media organisations should be encouraged to work with journalism schools to develop curricula that address AI literacy in the newsroom. There is also scope for capacity building outside such schools through the development of training material, and short-term skills-based courses on AI literacy to upskill working journalists, editors, and media managers. As part of its capacity-building initiatives, there is

an opportunity for organisations such as IMS to tap into existing expertise from within and outside the continent to work with journalism schools to develop such courses, or to organise workshops and or seminars to increase media workers' knowledge and understanding of AI and how it can be constructively applied in journalism. In this regard, the workshop we organised in Nairobi in October 2022 as part of this research project was highlighted by participants at the workshop as a particularly important initiative. According to one of the participants, the workshop “demystified AI for all of us”. Most respondents we spoke to in this study suggested such interventions.

“We need to have a framework that allows for conversation, maybe a yearly conference, monthly meeting among journalists... we need to sustain the conversations on AI in the best way we can benefit from it.

The conversation around its use has to be maintained or intensified. It needs to be louder. People have to know about it. It has to be more commonplace; we need more training. We need more consultants to offer these services.” (Editor)

“I think we need some constant conversation about AI. We can't continue to deny the fact that our profession has changed radically with the coming of digital technology and consequently, the use of AI in how we do some of our work.” (Editor)

Tackling resource challenges

It is difficult to see how AI use will be fundamentally integrated into Africa's news media without the requisite resources, both financial and human. There is need for news organisations to integrate or embed AI into their strategic business plans. To do so, however, they will need to make a business case for AI that is relevant, and sustainable. Media organisations must be encouraged and assisted in developing business cases for AI in their newsrooms. AI applications are currently used without proper needs, cost and impact assessments. Such approaches are unlikely to succeed or strengthen the continent's media. The plans must also include developing the human resource capacity to meaningfully use AI systems.

“... Before you're able to benefit from AI, you need to first invest in it. They [media organisations] also need to put some premium on the training of journalists on the use of AI.” (Editor)



Enhancing collaboration

This may very well be one of the low-hanging fruits which is easily actionable. Media organisations must be encouraged to collaborate with one another, media/digital innovation hubs, universities, and the wider tech community to develop local AI tools and solutions. The traditional news media is now part of a much broader information ecosystem in which exist several actors. Across the continent, AI tools most used have been developed by the big tech companies whose primary markets are North America and Europe. Trained using non-African datasets, most of these tools cannot be fully repurposed or customised for local contexts. Their use thus inevitably raises significant ethical questions, accountability, and

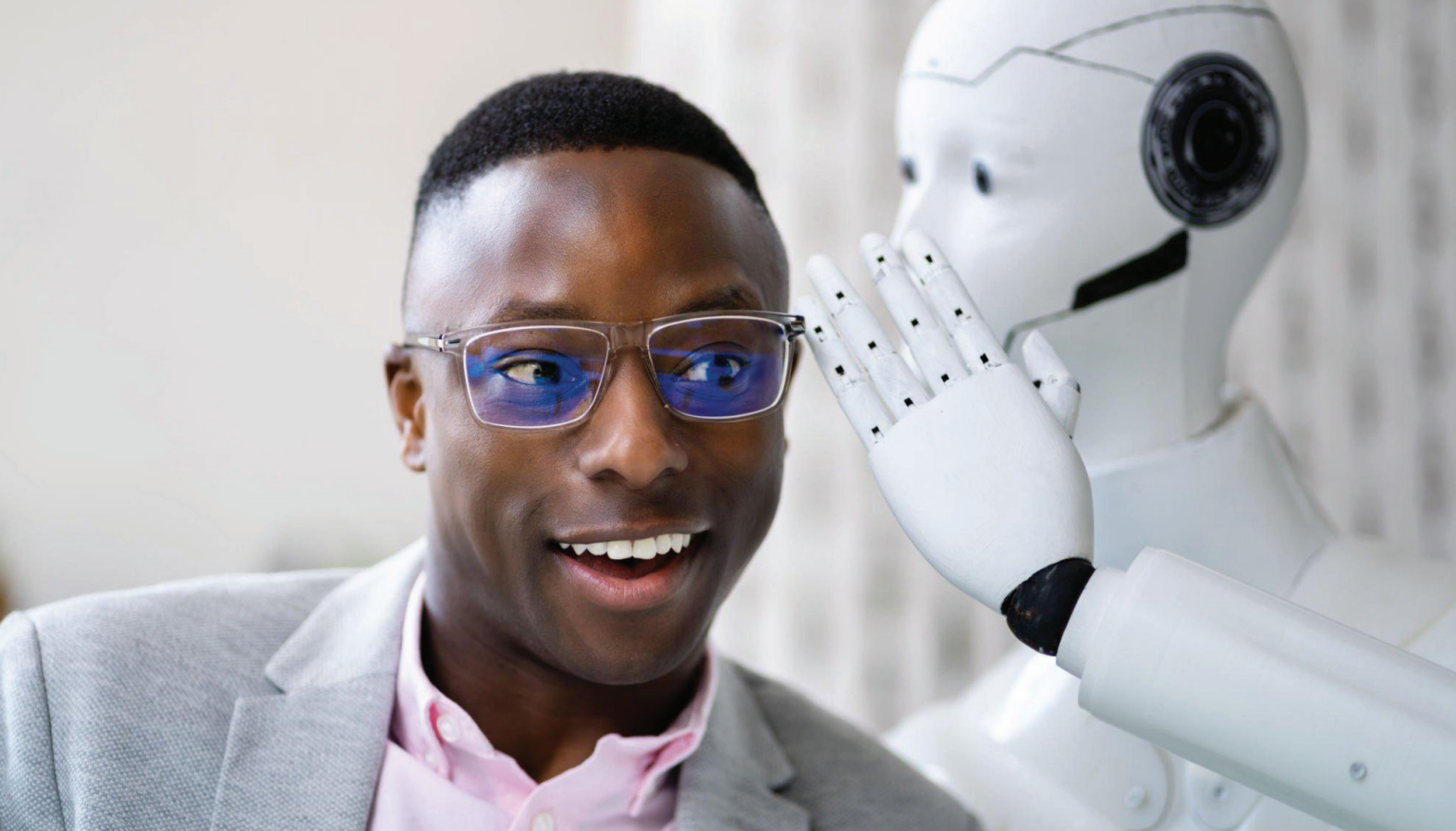
transparency concerns among other challenges. Organisations such as IMS and other international media development partners can leverage their networks within the continent and beyond to facilitate collaboration between media organisations, universities, media innovation hubs, and the tech communities, as well as with AI experts and companies outside the continent. Such conversations will lead to new thinking around local AI tools as well as ways of tackling the various challenges currently facing AI use in African newsrooms. These may include challenges relating to policy and regulation, ethics, dirty data and developing sustainable business models for AI use in the media.

Supporting and lobbying for better AI policy and regulatory frameworks

As national governments produce AI policies and regulations, there ought to be greater awareness of AI, AI systems, and their impact on individuals and society at large. Initiatives that can facilitate public awareness of AI, debates around it and the need for more engagement with policy and legislative processes need to be supported. These can take many forms, from seminars, workshops, and conferences to supporting governments or initiatives aimed at developing such

frameworks, to working with actors such as media coalitions and the broader tech communities engaged in lobbying or participating in policy-making processes related to AI policies and legislation. In many African countries, it is the tech communities and civil society that have been at the forefront of lobbying for ethical AI practices, policies, and legislation. As an important actor in the policymaking process, the media should also be supported in raising public awareness of AI.

“We must... set up a proper policy space and a regulatory regime around the application of some of these tools to general life and media practice in particular so that it doesn't end up burning us.” (Reporter)



Bridging the gender gap

While the causes for gender disparity in African newsrooms are both varied and complex, it is clear that traditional newsroom practices that have long excluded women endure. There must be a specific focus on women through several approaches including targeted digital training and collaboration with organisations such as Women in News, a media development program of World Association of News Publishers (WAN-IFRA). As the organisation so rightly observes “balanced newsrooms, boardrooms, and content are key to building resilient news organisations”. Similar organisations exist in a number of African countries. International media development organisations could also support ongoing advocacy work aimed at skilling women with the digital or technical skills necessary for the changing newsroom in Africa.

Funding research and innovation including development of local AI tools

Western companies retain proprietary rights of their AI applications. This insulates them from being transparent

and accountable to users in Africa. These tech companies cannot be held accountable even when harm is caused. In addition, precisely because most of these applications are designed for other contexts, they cannot always be positively repurposed for use in the African contexts. It is encouraging then that across the continent, there is growing interest in the development of local AI applications by media organisations and the broader tech community. These initiatives focusing on research and innovation should therefore be supported. As part of this project, IMS funded an AI Impact Challenge to support locally developed AI tools which could be used for or to support public interest journalism. The proposals submitted revealed a broad range of areas in which locally built AI applications could be developed and deployed. IMS and similar organisations should fund such initiatives alongside others that can surface insights into AI use in the continent such as this project has done.

AI and quality journalism

Importantly, it would also be important to interrogate the impact of AI use on the quality of content produced by local media. There is an overwhelming interest in the financial viability of media organisations. This has become

the dominant lense through which technological appropriation is seen. However, as this study reveals, a focus on eyeballs or on stories that interest the public risks undermining public interest journalism. Addressing gaps in AI knowledge, data bias, data quality, editorial practices and improving user engagement should all be done with a view to improving the quality of African journalism. It is this overriding imperative that should inform IMS's engagement with the recommendations.

Conclusion

While technology is not a panacea for the challenges facing African journalism, artificial intelligence (AI) holds significant potential to strengthen public interest journalism throughout the continent. Although the infrastructure needed to support the adoption of AI systems remains weak, there is visible interest and growing recognition of the potential of these systems. Media organisations are taking steps to integrate AI into their newsroom operations, but progress is slow. This is due to the various challenges surfaced and enumerated in this report. Partnering with local actors in the media sector, international media development organisations can play an important role in helping the media in Africa harness the potential of AI in journalism.

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info@mediasupport.org

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