A contribution to the disinformation and misinformation debate in Zimbabwean science communication

Jennings Joy Chibike, Thembelani Moyo, Anesu Elizabeth Kurebwaseka and Justin Salani

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Jennings Joy Chibike
Lupane State University
jjchibike@gmail.com

Thembelani Moyo
Lupane State University
moyot@lsu.ac.zw

Anesu Elizabeth Kurebwaseka
Pangaea Zimbabwe
anesukurebwa@gmail.com

Justin Salani
National University of Science and Technology
Salani.j@yahoo.com

Abstract

Drawing on African philosophy and indigenous theory, this article is aimed at examining, through views and perceptions of Zimbabwean journalists and scientists, the problem of misinformation and disinformation in science communication. This qualitative study gathers empirical data through in-depth interviews with purposively selected journalists and scientists from Zimbabwe. It is argued that Zimbabwean indigenous knowledges could be instrumental in addressing the problem of misinformation and disinformation in science communication in the country. In other words, adopting Zimbabwean-African values embedded in Ubuntu media ethics can potentially be the panacea to misinformation and disinformation problems riddling science communication.

Keywords: *Disinformation; Misinformation; Science communication; Ubuntu; Conviviality*.

Introduction

Science mediation on digital media is widely celebrated while in some instances it is seen as problematic (Martin-Neira et al. 2024). This is because of the rampant false information characterising science communication online (West and Begstrom, 2021). It has been noted that there is little scholarly attention given to misinformation and disinformation in science communication (Nguyen et al, 2023). In light of this, this study seeks to contribute to ongoing intellectual discourse on misinformation and disinformation in science communication in the

digital era (Nwogwugwu et al., 2023; Taddicken, 2020). Scholars have been preoccupied with interrogating how misinformation in science communication alters health behaviours of people (Goldstein et al, 2022), explicating the reasons behind misinformation in science communication (Vera and El-Khoury, 2022), combating misinformation through robust distribution scientific knowledge (Nwogwugwu et al., 2023; Taddicken, 2020). This study suggests Zimbabwean centred solutions to arrest problems of misinformation and disinformation in the realm of science communication something. Emphasis on Zimbabwean solutions to misinformation and disinformation is still absent in this body of literature. Precisely, this article answers the question how can misinformation and disinformation in science communication be curbed through levering Zimbabwean-African knowledge. In this way, this study seeks a dialogue between African perspectives, that up until now have been ignored and the hegemonic Eurocentric perspectives on disinformation and misinformation. The article uses in-depth interviews with scientists and journalists in Zimbabwean to gather data.

While there is a thin line between misinformation and disinformation, the two practices show some differences. Ireton and Posetti (2018) have argued that both practices show characteristics of poor journalism which have cascaded to mainstream newsrooms and social media. The practices are different from professional journalism which strive in following moral principles (Ireton and Posetti, 2018; Berger 2018). Misinformation can be understood as the spreading of misleading information without the intention to do so. On the other hand, disinformation involves deliberately disseminating of misleading information (Ireton and Posetti, 2018; Berger 2018). Any person can be a victim of misinformation where social actors erroneously share false information. However, disinformation is prevalent in propaganda and political practices where journalists tend to be victims of individuals seeking to control them as well as the news narratives (Ireton and Posetti, 2018). This mostly happens, for example during elections where producers of disinformation seek, "particularly during a poll, not necessarily to convince the public to believe that its content is true, but to impact on agenda setting and muddy the informational waters in order to weaken rationality in people's voting choices" (Ireton and Posetti, 2018:10). It could be a valid case in point as well that the Zimbabwe Broadcasting Corporation (ZBC) radio and television channels, as well as the state-owned Zimpapers, always seek to influence people's opinions in every Zimbabwean election (Moyo,

2009). This is partly because of the government's heavy-handed control on these entities, censorship, ownership patterns and personal biases (Chibike, 2023; Moyo, 2009).

Berger (2018) argues that with disinformation penetrating the newsrooms, it is up to journalists to stick to their professional ethics. Moral ethics such as objectivity can only be achieved if journalists refuse to be used by powerful groups in society. In fighting misinformation, journalists should adhere to the practice of verification. However, Tuchman (1972) warns that objectivity should not be innocently conceptualised but understand that it helps journalist navigate various dynamics which affect their profession and their being. Thus, each and every piece of information on social media streets should be verified for authenticity to avoid the spread of fake news. Social media platforms are awash with fake news because of the serious penetration of the internet worldwide. Misinformation and disinformation thrive in technology-driven platforms (Ireton and Posetti, 2018).

Emergence of the Internet and Proliferation of Misinformation and Disinformation

Technological advancements have led to massive transformation of journalism practice. Deuze (2005) argues that the internet, computer networks and mobile phones have heavily impacted on the training and practice of journalism. Apart from leading to new forms of practices such as citizen journalism, technology incorporation means mainstream journalists have to adjust and adapt to the ever-changing digital landscape (Maysyarah, Sjuchro, Hidayat and Mulyana, 2024). In the same vein, Harcup (2023) is of the view that technology has redefined news production and introduced virtually, participatory and interactive digital spaces of discourse. These include websites, blogs, YouTube, X handles and spaces, Facebook pages, Instagram, WhatsApp and TikTok. The digitally mediated public sphere therefore presents both new opportunities and risks, while simultaneously blurring the lines between information, content, and public discourse – all operating under the same framework and regulations (Giannelos, 2023).

These virtual public spheres are critical for a living democracy in the sense that they improve citizen participation. This is partly because there are a few barriers of entry in digital media (Deuze, 2005; Papacharisi, 2002). While digital media platforms can be seen as inclusive as compared to mainstream media entities like newspapers, TV and radio which are suffocating under political economy factors such as ownership structures and state influence, they also

perpetuate exclusivity as they deny some a chance to be part of the bigger picture (Nyabuto, 2023). Without a pluriversal internet, and where the digital divide perpetuates the peripherisation and exclusion of the already marginalised peoples of the South, the digital space cannot provide a fertile space for a living democracy (Moyo, 2017). However, other scholars argue that digital spaces include dissent voices which are usually sidelined by the mainstream media (Papacharisi, 2002), thus liberalising the exchange of information. One could think of government critics in Zimbabwe like Advocate Fadzayi Mahere and Hopewell Chin'ono who choose to voice and stand for the voiceless via social media, in particular X as local mainstream media suppresses the voices of government critics.

Real-time interactivity is another benefit associated with the use of the internet in political communication (Papacharisi, 2002). This is crucial for democracy as it enhances civic participation and engagement. Citizens engage with each other as well as their leaders at a real time basis. Most social media groups and pages have proved to be handy in such engagements. In the Zimbabwean context, there are platforms such as the Centre for Innovation and Technology (CITE) and Democracy Advocate Initiative (DAI) that encourage citizen engagement and deliberation on public pressing issues such as inflation, politics and socials ills. These platforms are also a site for marginalised groups who use them to upscale their voices and challenge the status quo. Mhlanga and Mpofu have illustrated this point through virtual groups that champion the marginalised Matabeleland cause ((2017:64). They argue that online fora now range from different Facebook and WhatsApp groups, such as Inhlamba Zesintu, Bring Back Bulawayo, Luveve Ikasi Lami, Abammeli Mthwakazi, Not-Everyone-is-Zimbabwean and Thina AbaMpofu, to websites like iNkundla.net, YouTube and other vibrant platforms created through mailing lists and listserv, such as the Forum" (Mhlanga and Mpofu, 2017:64).

Ireton and Posetti (2018) argue that digital platforms constitute the fifth estate where the executive, judiciary, legislature and mainstream media are monitored so that both misinformation and disinformation are minimised. The sites enable commenters outside the media fraternity to raise red flags whenever journalists get it wrong. Despite the above numerous advantages that the internet brought to the journalism and communication landscape, the digital sphere came with itself threats that cause information disorder (Ireton and Posetti, 2018; Mhlanga and Mpofu, 2017; Chari, 2013). The narrative is that misinformation and disinformation thrive because of the use of online technologies:

> The 21st century has seen the weaponisation of information at unprecedented scale. Powerful technology makes the manipulation of content easy, and social networks dramatically amplify falsehoods peddled by states, populist politicians and dishonest cooperate entities (Ireton and Posetti, 2018:15).

The sites have become spheres for propaganda peddling and trolling where offensive content is posted especially against political opponents. Information can be shared to set the agenda for journalists. Ordinary sites users unknowingly share false stories which then contributes to misinformation. It is also part of the criticisms that the internet penetration has promoted unhealthy practices which affect journalistic moral values. In addition, the digital ecosystem has created a fertile ground for the spread of different forms of fake news as digital sites are awash with hoaxes and hate speech (Ireton and Posetti, 2018). The use of pseudonyms also plays a great part in encouraging people to just share information because there is no accountability. It is also disturbing that the internet has encouraged cybercrimes, plagiarism and hacking where even professional journalists use unconventional ways of getting information (Chari, 2009).

Despite the argument that the internet has improved participation in democratic processes, there is the case of the digital divide. Certain sections worldwide still do not have access to connectivity while some do not have required gadgets and the knowledge to use them (Mabweazara, 2021). They are left at the periphery of information access and stand at a risk of believing any piece of information they get. For example, in most rural areas in Zimbabwe and in elderly citizens' sections there is little information literacy and most of them depend on the radio. The radio channels such as Radio Zimbabwe and National FM use the vernacular language which is easy to understand, but they are still controlled by the state and channel propaganda which then takes forth disinformation. The internet has also led to the advent and practice of citizen journalism (Moyo, 2009). The practice involves "citizens increasingly seizing opportunities to participate actively in news work and civic life" (Luce et al, 2016:267). Citizen journalism either emerges inside or outside the mainstream media (Luce et al, 2016). Nevertheless, it is when "ordinary citizens across the globe are appropriating new technological forms such as the SMS, blogs, email and others to both challenge and augment mainstream media coverage of critical issues or events of concern to their lives" (Moyo, 2009:554). These

ordinary citizens either feed information to the mainstream as first-hand or eye witness accounts or post it on digital spheres such as blogs, Facebook, WhatsApp and X.

While citizen journalism has been credited for improving citizen participation, especially by scholars with a political-economic perspective, it has been accused of several misgivings (Curran, 2002); Golding and Murdoch, 2001; McChesney, 2000). One criticism is that untrained personnel disregard moral journalistic principles that should be followed in reporting (Moyo, 2009; Chari, 2009). The disregard for ethical standards by citizen journalists is arguably one of the contributions to misinformation and disinformation. For instance, if ethics such as accuracy, verification, independence, objectivity and relevance are not followed there is a high risk of sharing fake news. Similarly, disregarding invasion of privacy usually promotes disinformation especially when the agenda is to discredit political opponents.

Cases of misinformation and disinformation have been rampant because of the internet, but media organisations and professionals have come up with initiatives to fight this scourge. The United Nations Educational, Scientific and Cultural Organisation (UNESCO) has been at the forefront through the introduction of handbooks to train professionals on how to fight fake news. In 2018, UNESCO partnered with various scholars and produced one handbook, Journalism, Fake News and Disinformation, to give media professionals "a framework and lessons to help navigate issues associated with fake news" (p.14). The handbook also aims at updating "journalism methods of dealing with challenges of misinformation and disinformation" (Ireton and Posetti, 2018:14).

Berger (2018:10) argues that misinformation and disinformation can be dealt with if journalists were to adhere to moral ethics. They must "eschew the publishing of unchecked information and take a distance from information which may interest some of the public, but which is not in public interest" (Berger, 2018:10). Ireton and Posetti (2018) posit that to avoid misleading audiences what must be emphasised in journalism practice is a sense of self-regulation where journalists use their codes of conduct to disseminate authentic information. The most important discipline is for journalists to always follow verification processes to authenticate information (Abu-Fadil, 2018).

The Zimbabwean media landscape has not been spared by technological revolutions with both their benefits and threats experienced by producers and consumers of media content (Chari, 2013). There has been rampant conduct of unethical journalism by both trained and unskilled

professionals. Chari (2009) studied the use of the internet concerning the ethical challenges it has brought to the Zimbabwean media. He argues that there has been a lot of factual inaccuracies/errors and fabrications, plagiarism, partisanship, vendetta journalism and too many uses of anonymous sources (Chari, 2009). These ethical challenges undoubtedly promote misinformation and disinformation. This study therefore seeks to answer the question on what can be done to curb misinformation beyond encouraging journalists to stick to ethics. The assumption is that centring African philosophy could help in combating the practices that dumb down the very essence of journalism.

Misinformation and Disinformation in Science Communication

Misinformation and disinformation are global challenges that affect all aspects of information, including, politics, health, climate change and the broader scientific environment (Druckman, 2022; Ireton & Posetti, 2018). Communicating scientific information to the public has become a challenge as a result of the proliferation of denialism, contrarianism, misinformation and disinformation. Science communication is defined by Burns, O' Connor & Stocklmayer (2003:191) as "the use of appropriate skills, media, activities, and dialogue to produce one or more of the following responses to science: awareness, enjoyment, interest, opinions, and understanding of science." As such, the media plays an important role in science communication, especially in the dissemination of accurate scientific inform to the public. The dissemination of scientific information, ranging from climate change, COVID-19 and vaccines, nuclear power, genetically modified foods, stem cell therapy to environmental science amongst others has been marred by misinformation and disinformation globally (Lynas, Adams & Conrow, 2022; Abaolola, Badraiq, Alsiary, Zakri, Aboulola, Haneef, Malibari and Alsayegh, 2022). Lynas et al. (2022) posit that misinformation about genetically modified organisms in the mainstream media is still a major problem, and it outranks the proportion of misinformation in other related debates such as vaccines and COVID-19.

Fake news about GMO's links to cancer cases in the new media environment have posed considerable challenges for science communicators as this information has exacerbated the stigmatisation of genetically modified foods (Jiang and Fang, 2019). In the Zimbabwean context, there is evidence of public skepticism of genetic modification in food, and this has been fueled by misinformation campaigns against GMOs especially in the social media environment (Changwena, Sithole, Masendu & Chikwasha, 2019). Communicating the science

behind genetic editing is also a challenge in environments where misinformation and opposing opinions have proliferated (Hendricks, Weary, & von Keyserlingk, 2024). Fake news about MRNA vaccines' potential to alter human DNA was also part of the digital infodemic in Zimbabwe, particularly during the peak of the COVID-19 pandemic, thus, fuelling vaccine hesitancy (Carmichael & Goodman, 2020). Misinformation and disinformation in scientific areas such as biotechnology, public health and climate science, therefore, present challenges for the science communication practice in Zimbabwe and beyond.

Iyengar & Massey (2019) are of the notion that in the mediation of science, effective communication has been affected by general mistrust in science due to the prevailing misinformation and disinformation about the scientific enterprise. Misinformation in the dissemination of scientific information has also become more complicated with the emergence of bad actors who spread misinformation about science for financial, ideological or political gain (Vera, El-Khoury, Thorp, Tofel, Ross, Mandavilli & Topol, 2022). In light of this, Leon, Lopez-Goni & Salaverria (2022) add that the onset of COVID-19 was coupled with rampant politicisation of health information culminating in the spread of erroneous or totally false information. Rubin (2020) argues that poorly regulated social media platforms, and carefree and untrained journalists propagate and encourage the spread of fake scientific information which might result in detrimental effects in society. This entails the need for scientists and science communicators to develop online strategies to counteract campaigns of misinformation and disinformation (Iyengar & Massey, 2019).

In recent years, the integration of generative artificial intelligence tools in the production and dissemination of scientific information has resulted in the spread of erroneous and inaccurate information to the detriment of public trust in science and scientific institutions (Monteith, Glenn, Geddes, Whybrow, Achtyes & Bauer, 2024). While AI has shown promise in democratising access to scientific information, its use in science communication raises ethical concerns given its capacity to generate false or misleading information, eroding trust in AI and science in general (Raman et al., 2024). Through text prediction tools that receive user inputs and produce new text that is as credible as the original text itself, generative AI tools ca be used by pseudoscientists and deniers to spread misinformation and disinformation (Kreps, 2020).

The spread of misleading information about health, vaccines and climate change has posed considerable challenges for society and the practice of science communication. This raises the need for strengthening scientific credibility against misinformation and disinformation (Jeng,

Huang, Chan &Wang, 2022). Scholars have also argued that the fight against misinformation and disinformation requires communicators to improve science literacy, and make science accessible through similar platforms on which pseudoscience thrives (Benjamin and MacLeon, 2022). In the context of climate science, Lewandowsky (2021) argues that highlighting scientific consensus could be an effective means to counter misinformation and enhance public acceptance of climate change. The scholar adds that climate misinformation is best addressed through inoculation, before it is encountered, although debunking techniques can be successful (Lewandosky, 2021).

Farrel, McConnel & Brulle (2019) posits that public inoculation is one of the main strategies that science communicators use to thwart large-scale misinformation campaigns. A systematic literature review aimed at identifying the most used strategies to confront misinformation related to health and the environment established that interventions based on credible information as well as inoculation were among the most used (Oliveira et al, 2023). Effective communication interventions that foster transparency and the use of concrete scientific evidence can help address the challenge of misinformation and strengthen public trust and support for science (Intemann, 2023). Merkeley & Loewen (2021) argue that dealing with science misinformation requires controlling its spread, promoting accuracy-focused messages, building relationships with trusted leaders tracking and debunking misrepresentations where necessary.

Theoretical and Conceptual perspective: African Philosophy and Indigenous Theory

This study is anchored in African philosophy, specifically Ubuntu and concepts of conviviality, alongside Indigenous theory. These frameworks provide a lens for exploring how Zimbabwean and African values can counteract misinformation and disinformation in science communication. This study acknowledges that Zimbabwean and African cultures are heterogeneous, rather than pristine. Ubuntu, a foundational concept in African philosophy, is rooted in the idea of interdependence and mutual respect, encapsulating the maxim, "I am because we are." Ubuntu emphasizes community, trust, and moral accountability (Murphy, 2015). In this study, Ubuntu is viewed not only as a cultural ethic but also as a framework for ethical media practices. By applying Ubuntu, this research suggests that Zimbabwean media can prioritize truth and respect for audiences, fostering trust and reducing misinformation.

Conviviality, another aspect of African philosophy, emphasizes harmonious coexistence and shared humanity, as discussed by Nyamnjoh (2017). This concept aligns with the need to integrate plural perspectives and foster dialogues that honour cultural values and lived experiences. Conviviality supports an inclusive approach, acknowledging that science communication is more impactful when it respects cultural nuances and diverse viewpoints (Nyamnjoh, 2017). Here, conviviality highlights the potential of localised ethics in constructing narratives that resist sensationalism and divisiveness often associated with misinformation.

Indigenous theory centres on valuing Indigenous knowledge and challenging Eurocentric perspectives that have historically marginalized African epistemes. This theoretical approach advocates for decolonizing the knowledge landscape, allowing for Indigenous knowledge to inform solutions (Akena, 2012; Ashu, 2020). Indigenous theory's insistence on including historically silenced voices aligns with the Zimbabwean need for locally relevant frameworks to confront misinformation (Kimmer, 2013). Through Indigenous theory, this study argues that knowledge production, particularly in science communication, should reflect African ways of knowing, rooted in community-oriented values such as trust, credibility, and accountability.

African Indigenous Theory, as conceptualized in this study, is not merely a nationalistic idea but a legitimate theoretical framework with global relevance. By situating Zimbabwean-African knowledge within Indigenous theory, this study leverages Ubuntu and Indigenous community ethics as tools for media practitioners to counteract the misinformation crisis. Indigenous theory thus offers a path to ethical science communication that recognizes and respects African values.

The use of African philosophy and Indigenous theory in this research is grounded in the need for a framework that resonates with Zimbabwean socio-cultural realities. As science communication becomes increasingly digital and globalized, there is a risk of alienating audiences through foreign models that do not align with local values. By integrating Ubuntu and Indigenous ethics, this framework proposes a culturally relevant approach that can inspire more trust in media and provide tools for resisting disinformation. In the Zimbabwean context, centering Indigenous theories in science communication represents a shift toward more ethical, community-centred media practices that directly address local challenges.

Methodology

This qualitative article uses in-depth interviews to collect empirical data. Since qualitative studies provide a thorough examination and analysis of social phenomena (Oranga and Matera, 2023) this article is poised to explore the perspectives of journalists and scientists on the possibilities and practicalities of using African epistemes in exorcising the ghost of disinformation and misinformation haunting science journalism. The researchers conducted in-depth interviews with 22 purposively selected participants comprising 14 journalists and eight scientists comprising 3 medical doctors, 2 environmental scientists and 3 biologists. Interviews were vital in this study as they allowed the researchers to have comprehensive conversations with the study's participants about measures that can be enacted to quell misinformation and disinformation in science communication. The aim here was to understand journalists and scientists' thoughts on how African indigenous knowledge and practices can be part of the solution to disinformation and misinformation in science communication. Participants were purposively selected. Purposive sampling denotes the selection of participants based on their suitability to speak to the demands of the research (Campbell, 2020). Our selection procedure took cognizance of journalists from start-ups, state and private media from different affiliations in Zimbabwe and also scientists in different fields such as medicine, chemistry, biology, food science, civil and water engineering and remote sensing. This was done to yield different perspectives on issues of disinformation and misinformation in science communication.

Discussion and Analysis of Findings

Empirical views and perspectives submitted by some of the study's participants point to the importance of respect in the fight against misinformation and disinformation in the realm of not only science communication but the entirety of communication as a practice and discipline. Tutu (2023) puts forward that respect is critical in the African philosophy of Ubuntu. It is related to objectivity and unbiased ways of communicating about any individual. Their values and beliefs must be treated with the dignity they deserve. Sesanti (2010) foregrounds that respect is critical in journalism for the reason that it helps media professionals to distribute information that does not contain distorted and biased views. This is critical in science communication, especially on issues that should be kept confidential. For example, respect encourages people to stop publishing anyone's HIV/AIDS status. The findings in this study show that the interviewees agreed that respect is very important and can help to fight misinformation and disinformation. For instance, respect for a person's privacy can help to stop the deliberate sharing of fake information intended to harm a person's reputation.

In this regard, Participant 1 says:

> It is high time that people respect one another and put respect first before creating and distributing science information or communicating anything. We should be aware that respect entails sharing correct information so that others get proper information which is not misleading.

Participant 4 said:

> Misinformation and disinformation in science communication can be eradicated by first realising that all people need to be protected. That protection starts from respecting people by giving them the correct information which they can use to come up with decisions. There is no honor in lying, we grew up being taught that and nothing should change in the journalism profession. Yes, we are now communicating using technology but let us not forget our cultural values as this will help us curb misinformation and disinformation.

The above responses are evidence that people believe respect is part of African cultural values. Although there are numerous cultures across Africa, respect is integral given the fact that it is part of the values under the Ubuntu philosophy. Within the Zimbabwean context, respect is of paramount importance. This study can conclude that this value is very much useful in fighting misinformation and disinformation as highlighted in the above responses. Given the upsurge of misinformation and disinformation in science communication the participants here note that the fact that respect is integral in eliminating this problem. While posit that objectivity, accuracy and independence as integral in the fight against misinformation, empirical data gets to locate the viability of respect as a moral principle in the Zimbabwean communication sector which is integral at arresting the issue at hand (Ireton and Posetti,2018; Berger, 2018). Respect as an African tradition will help ease fake science news which Monteith et al (2024) decry has ousted public trust in science communication. Consequently, respect denotes the consideration of someone's beliefs, and life within the African contexts helps bring conviviality in communication (Murphy, 2015), thus aiding the eradication of misinformation and disinformation in science communication. All in all, the respect of one's life will help

communicators fabricate and engineer science communication which is truthful, considerate and develops communities.

The issue of trust also emerged from the interviews with the participants. The participants mention that journalists and scientists whenever churning out information must make sure that they inspire trust in the audience by being reliable. Trust is also important under the Ubuntu philosophy. In communication who ever sends information must be accountable to it. Science communication requires that the distributer can answer questions about disseminated information. They must take responsibility for the information so that the audiences can trust them. In that way, they become trusted sources of information and this could help in minimizing disinformation and misinformation.

In this respect Participant 20 laments that:

> Journalism and scientists communicating science information must make sure that they are trustworthy and the information they are disseminating is trusted.

Participant 11 adds that:

> Science journalists must make sure that they publish reliable information. Reliability means that the information can be trusted as it has been properly verified from us scientists. This also applies to citizen journalists; they must make sure that all information the spread can be trusted. Communities are built o trust and proper information is that which is trusted. Doing this help eradicate misinformation and disinformation…

Here discourses of trust, reliability and dependability are being drawn into the cartography of the problems of misinformation and disinformation in the communication of science. The major highlight is that science communicators must be in a position to circulate information which is trustworthy and also inspires trust against the background that Druckman (2022) notes that science communication in contemporary society fails to spark trust in the audience. This thinking is extracted from African traditional moral philosophy and being immersed within Eurocentric discourses of journalism practice and science communication (Ejike, 2021: 23; Akena, 2012: 601; Nduebis, 2019). Consequently, African episteme is vital in the alleviation

of problems of misinformation and disinformation as it challenges political and economic imperatives which have griped science communication (Vera et al, 2022). Therefore, it is evident that native episteme is epitomised as a panacea for misinformation and disinformation in science communication within the Zimbabwean context.

The study's participants also implore science communicators to first introspect on what might be useful and good for the audiences before churning out information. Thus, participant 3 states that "journalists must first ask themselves the question is this information going to do good to the readers". In addition, participant 22 states that:

> Communicators of science must be kind when crafting messages and make sure that the messages benefit the readers. There should not be underlying imperatives such as politics which force journalists and scientists to communicate information which fattens their pocket while destroying society.

The participants bring the issue of credibility into the spotlight. Science communicators must make sure that they are credible and that they disseminate credible information (Jeng et al., 2022). This in turn helps eradicate any ethical issues that may arise in the communication of science (Raman et al., 2024). In this essence, credibility is understood within Africa experiences and environment meaning one's removal from promiscuity and immoral activities bent at benefiting oneself at the expense of the community. It then within the Zimbabwean communication landscape be weaponised to challenge misinformation and disinformation which Ireton and Posetti (2018) and Chari (2009) argue has been exacerbated by Western episteme and technology.

In a bid to curb rampant misinformation and disinformation in science communication, the participants are of the notion that communicators must make sure that the information they are about to share is helpful. Commenting on this participant 17 stated:

> Another way of reducing this problem (misinformation and disinformation in science communication) is to encourage communicators to ask themselves if the information they are about to share is helpful or not. If it is not, then there is no need to share it.

Participant 3 added that:

> Journalists and scientists must first make sure that they care for the wellbeing of their audiences. The moment they do so they will never spread false information. This does not only apply to professional journalists and scientists but everyone who is in a position to circulate information.

The argument here is that communicators must share information that is helpful and solution-oriented. This is enshrined in the native heritage of community living which is characterized by helping each other as the crux of social development.

Conclusions

This study illuminates that African philosophy and indigenous theory enable the examination of Zimbabwean rendition of salient remedies for misinformation and disinformation in science journalism. The article exhibits that journalists and scientists, who are the main communicators of science, must centre Zimbabwean cultural and traditional principles encapsulated within African principles whenever gathering, creating and disseminating information. These are respect, trust, human dignity, caring, sharing, helpfulness and unselfishness. Resultantly, this article aptly fleshes out that African values as media ethics in Zimbabwe are of importance in the fight against misinformation and disinformation in science communication. Hence, this study joins discourses bent at challenging the insularity of western remedies in the fight against misinformation and disinformation. While this is the case there is still need for more scholarly interrogation on this area to validate or even further improve the insights offered here.

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