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Examining Science and Technology Reporting and its Implications and Challenges for Development in Nigeria

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Abstract

With the breakthroughs in information and communication technologies comes a paradigm shift in journalism practice where specialised reporting has taken centre stage in the media industry today. Hence science and technology reporting is a vital area that needs to be given adequate attention by the media and the society. Despite the importance of science and technology reporting to the development of society, its practice is bedevilled with a lot of problems. Same is the case in Nigeria as no significant attention is given to the area either by the appropriate authorities or other stakeholders like the media industry. Using the expository library method of research the paper notes that the science and technology reporter in Nigeria is faced with the problem of capacity building, public illiteracy and phobia of science, lack of a clearly articulated government policy on science and technology and lack of technical, scientific and technological equipment to drive science and technology reporting in the country. The study concludes that because of the importance of this specialised area in journalism, government should invest huge material and human resources in terms of funds, provision of specialised training and workshops for journalists to be empowered with the skills required in reporting and disseminating science and technology information to the public.

Keywords: Communication; Development; Journalism; Reporting; Science; Technology

1 INTRODUCTION

There is no doubt that the influences of science and technology in our world are widespread and enormous. The breakthroughs in science and technology are visibly evident in all spheres of our national life (Billingsley, 2020). Science and technology have been exploited to harness human and material resources to meet human needs and satisfy human wants (Svendsen, 2020). The way the general public perceives scientific matters is greatly influenced by the media. It is often acknowledged that the public's reaction to scientific concerns is influenced by the media. The mass media's reach as a communication tool is unmatched. It also has substantial power to set agenda for public discussion. Due to the enormous roles played by the mass media, people rely on them as important source of scientific and other forms of information. However, issues pertaining to science are frequently not adequately covered by the mainstream media.

The shutdown of science desks in newsrooms worldwide has led to the description of science journalism as a dying profession (The Global Science Journalism Report, 2013, as cited inWaithera (2019)). The study also reveals that between 1989 and 2005, newspapers' percentage of devoted science sections decreased from almost 95% to 34 percent. This is similar to the recent report credited to Pew Research Center where the verdict that along with public trust, science journalism continues to shrink (Flatow, 2024). Due to this evolution, there is now inadequate knowledge to enable scientists become experts in disciplines outside of their own and to encourage scientific literacy among the general public. It has equally created a series of problems for science journalism as an area of focus because it relies on scientific research and discoveries to thrive.

Although science journalism is not an anomaly in Africa, it seems that the continent faces distinct difficulties. A study by Matsilele et al. (2024) discovered that the current level of science and technology coverage in the media of Southern African countries of Mozambique, South Africa and Zimbabwe was quite low. The study identified limited knowledge of journalists, inadequate resources, and preference for economic and political news as some of the factors affecting the frequency and quality of since reporting in the countries. Politics, sports, and economic news dominate scientific articles in Africa and around the world. On account of the "formal training deficit" in science journalism on the continent, some of the few science stories that are written and/or broadcast occasionally show lack of comprehension of the subjects being addressed. Additionally, press releases are frequently the basis for stories that lack depth, insight, or additional investigation. This has led to "churnalism," in which news outlets reprint press releases from campaign organisations and public relations firms verbatim, casting doubt on the calibre of scientific reporting (Waithera, 2019).

This situation puts the public and scientists at serious danger since it allows commercial interests to take advantage of earned media opportunities by passing off as "news" what is really a promotion for a firm, good, or service. It is a news culture of science-unfriendliness and also devoid of high ethical standards (Tran & Nguyen, 2023). This has undermined the coverage issues that pertain to science and technology in the society. It is resulting in the loss of interest by the science and tech-savvy audience who ordinarily try to catch-up on scientific discoveries and ground-breaking findings and results through the media. It also signals a bleak future for science journalism even in the face of the advancement in digital technology for the media industry.

There is also a general lackadaisical attitude to the coverage of science and technology issues in the media industry in Nigeria. (Nwagbara & Azoriwa, 2018) state that the lack of interest shown by the media towards science and technology issues in Nigeria can be partly attributed to the kind of complex and technical language science experts use in explaining what happens in their field. This makes it difficult for journalists to understand and report such issues properly. In this study, the need to stress the value of science and technology to the advancement of the country is equally crucial. Development is one of the goals of science and technology reporting. Coverage of science and technology issues by the media will create awareness and provide a pathway for national transformation to a struggling economy like Nigeria.

The situation in Nigeria with regard to science and technology is grim. Without science communication, science is murky, which is why the state of science communication reporting in the nation is a major reason for concern. To buttress the foregoing point, (Holesovsky, 2021) noted that the communication about science is on same level with the science being communicated. It is against this background that this study examines the challenges of reporting science and technology issues in Nigeria. The study also interrogates the implications of the inadequate coverage accorded to science and technology issues to Nigeria's development.

2 OBJECTIVES OF THE STUDY

The objectives of the study were to:

1. Examine the challenges of reporting and technology issues in Nigeria.

2. Investigate the implications of the inadequate coverage accorded to science and technology issues in Nigeria's development.

3 CONCEPTUAL REVIEW

Science and technology reporting and development are the main concepts for review in line with the title and direction of this study. In order to gain a thorough grasp of their application, these concepts are explored in this study. The use of journalistic principles to inform the public about scientific and technology issues, subjects, and advancements via the mass media is known as science and technology reporting. This specific area of journalism involves obtaining noteworthy information about events in the fields of science and technology, processing the unprocessed data, and presenting it to the public through media features and straight-news reporting (Nwafor, 2021). Like many other technical areas of journalism, it is not done haphazardly and may also come with its unique rigour for practitioners.

The concept of science means different things to different individuals. When we talk about science so many things come to our minds. The Latin word "scientia," which meaning "knowledge," is the etymological root of the English term "science." Humans engage in this intellectual effort to learn more about the natural world in which they live and to figure out how to organise that knowledge into patterns that have significance (Bello, 2021). According to this definition, science is the process of learning new things, including creating prototype ideas (Tirmizi et al., 2020). The systematic study of humans and the cosmos by experimentation, measurement, and observation can also be referred to as science. Scientists search for the laws governing the cosmos. With visible physical evidence as the foundation, science is the concentrated human endeavour to comprehend – or better comprehend – the history of the natural world and how it functions.

However, the word "technology" was created from the Greek words "logia," which means "study of," and "technie," which means "art," "craft," or "skill." Therefore, technology refers to methods of producing or doing things. It describes the creation, alteration, application, and understanding of tools, machinery, crafts, techniques, systems, and organisational procedures in order to address an issue or carry out a particular task (Carvalho et al., 2021). One could consider technology to be the activity that makes products primarily based on scientific knowledge widely available. It such knowledge that creates useful products for simplifying tasks for man and society in different dimensions and possibilities.

Although science and technology are indispensable in modern world, researchers widely believe they receive marginal coverage in the media. Perhaps this provides a logical explanation as to the reasons why the general public has a startlingly limited knowledge or comprehension of current science. This is especially the case in parts of sub-Saharan Africa. Accordingly, McKenna (2025) revealed that there is a challenge in respect of access to scientific information in sub-Saharan Africa with low levels of access reported in many countries. In view of the critical function of science and technology to national development, adequate coverage of science and technology should be seen as imperative when one considers overwhelming public interest in several scientific areas.

Scholars have made serious attempts to conceptualise the term development. The result is that there are numerous definitions. Everett Rogers cited in Oyero (2012) and Jegede (2017) defines development as a widely involved process of social change in a community with the goal of granting the majority of people power over their surroundings in order to bring about social and material growth such as increased equality, freedom, and other desirable aspects of life. According to Rodney (1972), development entails improved ability and aptitude as well as more autonomy, creativity, self-control, accountability, and material prosperity. The determination to leverage on the media to cause social engineering towards the creation of riches and the guarantee of both individual and community well-being is a key concern of development communication. In this regard, the mass media should be utilised to draw attention to development initiatives and encourage public participation in order to boost productivity (Anyanwu et al., 2019; Olaniyi, 2020; Sanusi & Omotade, 2023).

3.1 Relationship between Science, Technology and the Mass Media

It has long been recognised that the media contribute significantly to society by disseminating information that is essential to people's understanding and interpretation of their surroundings (Davidson, 2025; Liao, 2023; Paul & Rai, 2023). For the benefit of their audiences, the media represent, analyse, and assess issues in order to assist them make sense of the world and events (Ajetunmobi, 2023; Çobaner, 2021). Technical jargons, complex scientific language and analysis of research goals, objectives, and results are just aspects of what the media do in science journalism and reporting. This idea is about media framing of science.

In terms of scientific communication, the media are viewed as "brokers" between the public and science, influencing public perception of science-related events and framing social reality for their audience. It is unique to note that for some people, the media happened to the only reliable science and technology information source (Schäfer, 2011; Yin & Yan, 2021). In actuality, media coverage, interpretation, and presentation have a big impact on how people perceive science and technology. To a reasonable extent, the audience relies on experts' interpretations of complex scientific findings for knowledge and understanding. This is made possible by the media.

The mass media offer the platform for the development and pursuit of the public-science connection, and it is within this platform that the public forms moral assessments of science (Elliot, 2019; Lewenstein, 2015; Schipani, 2024). Additionally, science has always been given a lot of weight in the news media, but contemporary news companies are more inclined to see science as a specialised field where science news competes with all other types of news for time and space (Dönmez, 2023; Funk et al., 2017; Su et al., 2015). The "gatekeepers," who choose which science articles to report based on their own journalistic values, are journalists or their editors. Their personal preferences, the complexity of the subject matter, deadlines, availability of science news, the availability of scientists for interviews, time and space constraints, and numerous other considerations can all have an impact on the stories they choose to publish.

Since science and the media have different rules, scientists cannot modify their methods or findings to fit the media, and journalists will not alter their reporting to fit scientists, scientists must understand how the mass media functions if they want to receive media coverage. Scientists frequently believe that the media either misunderstands them or purposefully misrepresents them and their science, and journalists occasionally accuse them of being inaccessible and speaking in technical terms. It's critical to keep in mind that scientists and journalists create information about the world in distinct ways in order for them to collaborate productively.

It should come as no surprise that when scientific messages transition from journal articles to news stories, their meanings change. Biases and inaccuracies infiltrate. Certainty replaces uncertainty. Hopeful developments turn become cures, and tentative improvements turn into breakthroughs. Journalists and scientists are likewise subject to rather varied standards. Scientists respect accuracy, impartiality, and detail. They typically do not modify the information for a certain audience and instead wish to put a lot of limitations and warnings. Journalists always consider their readers, viewers, and listeners while searching for a story. Drama, human interest, relevance, and real-world applicability are what they require. They also want to see the genuine person – someone who might even be funny – behind the lab coat. They are curious about the difficulties and benefits of being a scientist.

Infographics and captivating, straightforward images are also essential for journalists to captivate readers. It is important for scientists to realise that journalists are taught to pose challenging and inquisitive questions. They have the right to decline to serve as mouthpieces for institutional news or as channels for the viewpoint that a particular interest group wishes to express. They will evaluate a story based on their own listeners', readers' or viewers' news values and interests. Journalists and scientists collaborate most effectively when both sides see it as collaboration. Scientists can impart fresh knowledge and possess authority and competence. Journalists are skilled at making this into a tale that will appeal to the general public.

Scientists with greater effort to have good media knowledge and also learn to align with the rules usually

have the capacity to control the agenda of the media in more effective ways and this often result in working relationships that are mutually beneficial to parties involved. Adapting and conforming to journalistic conventions through collaborating with journalists may provide scientists with superior control over the tone and emphasis of the unfolding story (Kulkarni et al., 2022). But, since science journalism is ultimately about media rather than science, the journalists will always get the final say (Elías, 2018; Guenther, 2019).

A survey of over 1,300 biomedical researchers across five nations found that there was widespread interaction with the media and that there appears to be a greater link between science and the media than is commonly believed (Peters et al., as cited in Joubert (2015)). The researchers suggest several potential explanations for this, including a shift in the standards used to evaluate media performance from quality- and scientific content-oriented criteria to strategic, public relations, and effect-oriented criteria; greater professionalism in science journalism; and more effective communication tactics that have a greater impact on how science is covered in the media. While acknowledging that researchers' improved ability to collaborate with the media is beneficial for scientific journalism, they caution against the risks associated with scientists attempting to exert more influence over science coverage. For this reason, having "strong science journalism" that is both analytically critical and investigative – that is, capable of "credibly praising and criticising" research is crucial.

Additionally, Pinto (2020), cautions about the dangers to science communication that come from commercializing research that is supported by private firms. He notes that pressure from public relation and marketing causes science writing to shift towards public relations, which leads to hype, sensationalism, and inflated claims. These concerns have led to a situation where information consumers and the general public are becoming more sceptical about science. The author comes to the conclusion that in this evolving environment, the goal of science communication is to increase public criticism of private scientific advancements rather than to win over the public.

It goes without saying that science journalism as seen in newspapers, magazines, popular science publications, radio, television, film and the internet are a major means of communicating and popularizing science. On the other hand, scientists through research, teaching and publications often need to engage the public through the media to engender public understanding of science and engage in other activities that may help improve scientific literacy among the population (Dutta & Batta, 2013). Such activities may include coverage of a follow-up effort by scientists or even a case-by-case treatment of research findings to validate new results. It could also be about dismantling conspiracy theories in the science world and proving that only scientific information should be relied upon in taking decisions about anything including personal health of individuals.

A practical example that may align with the foregoing statement is scenario surrounding the Covid-19-related conspiracies on preventive and curative measures. Access to social media and new media technologies exposed users to all manner of conspiracies in the wake of the outbreak and subsequent spread of the virus to different territories of the world. But again, science journalism was effective in that regard as it possesses the power to stimulate the gathering and dissemination of research-based information that would assist the public in making good health decisions – altogether leading to better health outcomes for the generality of the people. This aligns with research finding that during the pandemic there were interactions between science journalists and scientists primarily for the purpose of occasioning improvement in scientific culture of society, promote favourable attitudes of the public toward research and to achieve a society with better-educated individuals on health matters (Marín-González et al., 2023).

The spread of scientific findings from research on Covid-19 and related health information and communication was a major approach in the right against the pandemic. Awareness campaigns in the media based on sound scientific foundations proved useful in the fight to reduce the spread of Covid-19 in Nigeria (John, 2023; Ogah et al., 2022). This is another great relationship between the science (as seen in research), technology (as in the use of media technology), and the mass media (as demonstrated in the packaging of media messages) all in a bid to push back the dangers of a pandemic (as seen during the Covid-19 pandemic outbreak in the world and Nigeria in particular.

4 LITERATURE REVIEW

Developments in science and technology issues necessitated the creation of science beat and desk in most media organisations today. Hence, specialised reporting has become a novel component in the field of journalism. The science and technology beat could be described as a two-in one beat. It consists of a gamut of issues, topics, developments, trends, and happenings etc. Some of the issues covered by reporters in this field include health, environment, scientific inventions and prediction, to agriculture and news about industrial safety in our world (Mamboleo et al., 2023). According to Guenther (2019) science journalism as specialised journalism genre is about science, technology, and medicine, and was professionalised in the 20th century's second half. It must be noted that the areas of reporting remain complex to the lay-audience who may not have the requisite education and exposure to understand science and technology-related information in the original form as often released by a science institute or organisations.

Therefore, it is necessary to bridge the gap between the highly complex and technical field of science and technology and the media audience because science naturally involves terminologies and jargons that the general public can barely identify with. It is the place of journalists to break down this scientific language to the level the public would understand. This does not in any way imply reporting incorrectly to the point of losing the meaning of what is being reported. It has also been noted that "science and technology reporting in precision journalism where accuracy is of the essence" (Alao & Olawumi, 2014, as cited in Nwagbara and Azoriwa (2018) p. 3). Accuracy is considered indispensable in reporting science and technology (Allard, 2023; Gordon and Betty Moore Foundation, 2018). This is chiefly because once the wrong information is provided to the public and then they take action relying on such, the rippling effect may be devastating. A case in point is the Covid-19 health communication efforts by concerned stakeholders through the media. Health is reference here because a bulk of science writing in both developed and developing world center on medicine and health (Bauer et al., 2013). This puts science and technology reporters on their toes to do good by the profession.

Consequently, the dissemination of accurate and precise information on curative and preventive measures was just the only way out of the health situation such as the Covid-19 pandemic. Again, the complexities of the issues and moments of the pandemic reveal the need for transmission of precise information. Chen et al. (2021) lend credence that on the basis of China's experience, there is need for precise information transformation during the pandemic. This is a part of the larger advocacy for precise and accurate dissemination of science communication especially in times of great needs. Such accurate science communication was just the way out of the issue especially during Covid-19. Access to information is considered to be part of the indices to know that the world is on course to sustainable development (UNESCO, 2019).

Additionally, Dickson (2012) makes the case that science communication is a crucial part of development plans and that all stakeholders need to have access to pertinent scientific data in an understandable format; in other words, they need to have access to science that has been effectively communicated.

The public's comprehension of science and technology is greatly enhanced by the media. Usually, journalists take on the role of "intermediaries" between scientists and the general public with an interest in a particular scientific topic or issue. Consequently, Rödder et al. (2012) argued that an analysis of the media's portrayal of science would be necessary in order to fully comprehend the social representation of science, or how science is portrayed in the public consciousness. Nevertheless, very few studies have thoroughly examined the quantity, calibre, reach, and opinions of science and technology coverage in Africa.

A study conducted by (Matsilele et al., 2024) examined the influence of science reporting on journalism within the context of South Africa. The study demonstrated low coverage and concluded that different levels of influence shape science reporting, and that at the individual-level, it is about the journalist's knowledge of science and personal background. Furthermore, lack of skills was identified at the routine-level and organisations resource limitation was also identified. Only a small number of studies have thoroughly examined the quantity, quality, reach, and opinions of science and technology

coverage. This clearly shows that most African media and journalists are yet to give proper attention to science and technology issues in the continent. This is however a major issue for concern as it relates to the development of a continent that has most countries categorised/designated as developing or underdeveloped in the real sense of the word "development".

There is also the need to give science and technology reports a "human face" if such report should appeal to the public (Udo 2014, as cited in Nwagbara and Azoriwa (2018)). Udo further notes that most science and technology issues will at all times have a human application. Thus, reporters should always find out how the incident they are reporting affects the lives of the people, readers and listeners. Fairbank (2025) notes that against the knowledge-based solution to effective science reporting, there must be some form of confirmation-based reporting. This does not diminish the need for the reporter to build up a basic knowledge about the science and technology beat, read widely as there are daily advancements in the field, make contacts; he or she should know as many scientists as possible.

In a study, Batta and Iwok (2019) attempted to explore periphery nations' communication scholars' perception of science communication. Specifically, the researchers examined how science communication studies and research are perceived, how science is covered in Nigerian media, how politics views science communication, how diverse stakeholders and actors are, how science issues are disseminated, and how interested Nigerians are in science issues. The results of the study, which was conducted using a survey research design, indicate that, among other things, 49% of the respondents thought that there was insufficient scientific content in the media, 65% thought that science communication received little or no political attention, and 63% thought that there was little diversity among the actors and stakeholders in science communication. Based on the results, the study suggested that laws pertaining to science communication and primary, secondary, and tertiary science education should be prioritised by the government, business, lawmakers, and all other stakeholders and that there should be improvement in science journalism and advance research on science communication.

Similarly, Tsanni (2021) noted that scientific literacy in Nigeria is low due to lack of science coverage in the Nigerian media. This in itself is a major problem of learning and knowledge in the country. Accordingly, science journalism training is said to be absent in Nigeria; a situation that has resulted in a few journalists and editors with a science background (Meyer, as cited in Tsanni (2021)). These issues contribute to the improvement of dearth of science knowledge in segments of the Nigerian society. The media plays a critical role in the education of its audience (Kapur, 2018; Keefer & Khemani, 2014; Raju, 2019; Ritakumari, 2019) who are members of the public. This is part of the traditional function of the mass media. However, when practitioners are not knowledgeable in science and technology, how are they able to impact such on the public. The answer is as good as anyone's guess.

5 METHODS

This study is qualitative and so considered secondary data gathering methods. It is based on a systematic review of existing data in form of literature in online materials, government reports, journal articles, and articles in book chapters as well as textbook. The data collection method employed was online databases and archives such as ResearchGate, Web of Science and UNESCO. Initial results show that over 112,000 results after which the selection process was initiated. Result from the process saw the hits reduced to 2,717. Afterwards, the researchers repeated the process to prune the number to 107 in the validation process. The exclusion criteria at this stage include articles published prior to 2010 and others about science and technology in relations to other fields other than journalism practice and education. This implies that the inclusion criterion was based on recent and literature. This yielded 12 articles upon which this review rests. These were synthesised to arrive at the position on the challenges associated with reporting science and technology issues in Nigeria while also creating discourse points as per implications of the inadequate coverage accorded to science and technology issues in Nigeria's development.

6 RESULT AND DISCUSSION

6.1 Obstacles Science and Technology Reporters Facing in Nigeria

A number of challenges have posed great obstacles to journalists covering science and technology beat in Nigeria. The lack of understanding in the fields of science and technology is one of these issues. Given the significance of scientific concerns to society, the media should typically be quite interested in covering them. Unfortunately, there is a common belief that this is rarely the case since media outlets and journalists frequently lack the expertise and corresponding motivation to cover science and technology. Nwafor (2021) confirmed this position that in most newsrooms in Nigeria media houses, reporters are reluctant to take up assignments dealing with science and technology and most time are compelled by external factors and forces to cover a field neglected for a long time. This is particularly true in Africa, where there is a dearth of journalists with specialised knowledge in science and technology, as well as a lack of the skills required to understand and interpret such information before disseminating it to various audiences as news, features, and other texts.

Closely related to the knowledge gap in science and technology is the lack of value attached to science and technology in Nigeria. In Nigeria for instance, there is a preference for other disciples compared to science and technology. Even though successive governments try to introduce several policies to encourage science and technology in the country, the discipline has continued to receive less interest from the citizens. This is couple with the fact that the country is not yet technologically developed; only few trained experts in science and technology are available. This problem has deeply affected the educational system in the nation which is why several journalists are not equipped with the basic knowledge of science and technology in journalism profession.

Sensationalism and mistrust is a generally problem that scientist and journalists battle with very often. Despite the fact that balance and accuracy are regarded as fundamental components of journalism, it appears that competition and ineptitude have contributed to sensationalism and the devaluation of significant topics. Although it is impossible to generalise, this is regrettably a common occurrence in African journalism. In truth, the issue has been linked to incapacity and a lack of specialised knowledge, which has caused conflict and mistrust between scientists and media. The idea, and occasionally myth, that journalists will constantly sensationalise or misreport material has contributed to this mistrust.

The media and scientists are engaged in a sort of cold war. William Balikuddembe of The Sunrise newspaper and chairman of the Uganda Science media Association supports Tenywa's claim that scientists are reluctant to provide information because they worry that the media may publish it incorrectly (UNESCO, 2011). This frosty relationship made scientists not to be open to media men to disclose their scientific research or works. Whereas the journalists may just be out there to report the issues, the infusion of opinions by some reporters may appear to be at variant with the objectives of the research that led to the scientific results in the first instance.

In the same vein, Ineji (2014) opines that the ethics of science, which bars scientists to be quoted in the mass media on certain discoveries and breakthroughs usually, discourages journalists from science beat. He further notes that this is against the background that every journalist wants to quote sources to give credibility to their stories. This ethical standard usually makes journalist's to be reluctant in reporting science and technology in Nigeria. The case of Dr. Jeremiah Abalaka, a Nigerian doctor is a case in point. Dr. Abalaka who claimed to have found the cure for HIV/AIDS has not been properly reported by the mass media because of his refusal to open up on the procedure of the development of his vaccine. His refusal to open up had created the impression that science is complex and no journalist is ready to report his discovery without attribution to source of information (Ineji, 2014).

Inadequate training of journalists on science and technology reporting is another obstacle. Journalism training institutions in Nigeria are yet to integrate science communication courses in their curriculum. Hence prospective journalism students in training are not equip with the requisite skills on what it takes to report science related issues. In this regard, Ineji (2014) contends that most mass communication schools and colleges do not have science courses in their curricula where as they have courses like

law, psychology, sociology and other humanity courses in their curricula. He further notes that this makes graduates of mass communication to be deficient in science and hence creating the fear that science is exclusively complex than any other field. .However, this scenario is changing gradually as the mass communication curriculum in Nigeria is currently being unbundled to reflect the reality of the times in journalism profession globally. The foregoing has been corroborated with the submission that the biggest obstacle to Africa's capacity to maintain its current economic growth and rank among the world's top manufacturing and exporting continents is its inability to shift its educational offerings from the humanities and social sciences to STEM courses (Khumbah, 2016, as cited in Batta and Iwok (2019)).

Closely related to the above is the lack of research materials on science and technology in Nigeria. Ineji (2014) observes that this problem makes journalists to be helpless in reporting science issues because reporting science effectively requires that a journalist should make reference to scientific materials. Hence since materials are not readily available journalists hardly embark on research to know current trends in the scientific world. This compounds the myth that science is complex to report to the public. This is against the background that if journalists are to report science effectively, they have to engage in research that would unravel the implications of scientific discoveries to the common man.

In addition, the technical language of science also complicates issues to most journalists reporting this beat. Due to lack of background in science discipline most journalists are unable to break down scientific information for public consumption. Little wonder so many journalists shy away from reporting science and technology issues. Researchers have hinted that one of the most frequently stated explanations for reporting practices that media critics deem problematic is journalists' lack of scientific training or expertise (Okon & Eleba, 2013; Tran & Nguyen, 2023). Due to this ignorance, many media lack the ability to critically examine scientific and technical advancements, especially when the scientists or innovators are trying to conceal their flaws.

The challenge of a local news culture that may not be friendly towards the promotion and development of science and technology journalism is another serious obstacle. It is indeed a challenge because the style of report as well as the reluctance to report on issues that promote science may as well dim the light in the area of journalism. This can be seen from a similar study conducted in Vietnam that identified the challenge of science-unfriendly news culture as one obstacle facing science and technology journalism (Tran & Nguyen, 2023). This implies that

6.2 Implications for Nigeria's Development

Scientific literacy is very important to national development. When majority of the public are not literate on science and technology issues they will be misled. Dickson (2012) emphasises the need to stem the flow of bad information or misinformation about science in the society. According to him, one of the ways in which the media should stem the flow of misinformation about science is for the media industry to always cross check and verify facts and information from scientists before they let out information to the public domain. Going by the Nigerian situation, most people are not scientifically literate because of the phobia associated with science and technology. Hence, this has huge implications to Nigeria's development. When people are not literate in science they will find it very difficult to read or listen to media reports on scientific inventions or discoveries. This is one of the reasons why science news is not interested to most of Nigerian public.

The importance of scientific literacy and its implications to public policies around the world has been acknowledged (Kennedy & Overholser, 2010, as cited in Dutta and Batta (2013)). They stress that if only a small number of people in a democracy is knowledgeable about science and technology, the level of public discourse becomes low and policy making poor. They add that citizens require some level of scientific knowledge about issues such as energy policy, climate change, evolution, and disease prevention to stimulate progress. Such progress can only be stimulated in a knowledge-based foundation. In other words, the nation that prioritises capacity development through the education of its citizenry in science and technology may just be on its way to growth and progress.

The state of science and technology development in Nigeria is very bleak and not encouraging at all. Agbakwuru (2017) cited in Batta and Iwok (2019) reported that even though the federal government declared a state of emergency on science and technology sector in Nigeria there is yet a commensurate commitment to implement government policies and strategic plans on science development in the country. The lack of implementation of government policies on science and technology has cause the country to retrogress in its development in all spheres of national life. Nigeria is lagging behind in national development because of government poor attitude towards science and technology. Dickson (2012) contends that all stakeholders must make sure they contribute to the advancement of science and technology and that scientific communication is a crucial part of development initiatives.

One of the things that drive innovation in terms of development is research. Research is a major factor that facilitates development and progress in any country. This has been buttressed with the assertion that research and development are two distinct yet inseparable (Mahr et al., 2023; Namanji & Ssekyewa, 2012). Therefore, investing in science and technology would mean that the government must be ready to inject funds and resources towards research that would lead to national transformation. Nigerian Journalists and scientists have been neglected by government in terms of provision of research grants to fund researches on science and technology. This situation has made Nigerian journalists ill-equipped with the requisite skills to report science issues. In fact, it is also the case elsewhere in Africa as skills gap was identified as a major challenge that hinders science reporting by science and technology journalist practicing in the continent (Afadhali, 2024). If this will be curbed, it is imperative for the government and the private sector to heavily invest in science and technology development in the country.

It is an exercise in futility to delve into science and technology reporting without the necessary technical equipment and gadgets. Despite having a wealth of human and material resources, including engineers and technicians, Nigeria lacks technology because these resources are not being used effectively (Gulma, as cited in Nwachukwu and Udenze (2019)). Perhaps this explains why science reporting has been accorded low premium among most media organisations in Nigeria. This is especially pathetic among government media outfits. The paucity of the needed technology required for venturing into science reporting is seriously lacking in the country. This is in contrast to most developed nations where these gadgets are readily available. This is the reason why Nigerian scientists should be supported with the required resources needed to invent locally made equipment that would fit into our environment and thus meet the demands for science and technology reporting in Nigeria. Put in another way, and in line with the position of Mamboleo et al. (2023), the intellectual, financial and technical capacity of journalists especially those in the developing world must be strengthened to enable them generate science news report and even provide the audience a blend of local content and perspective.

7 CONCLUSION

The paper was able to establish the fact that reporting science and technology is very important to the survival of society. This is imperative because virtually everything in the society runs entirely on the wheels of science and technology. It is because of this reason that the mass media must educate the public on issues relating to science and technology. For the media to do this job effectively the journalist must be well trained with the skills to gather, process, and disseminate scientific information to the audience. The paper argues that media coverage and reportage of science and technology has been low in Africa and Nigeria owing to the fact that government has not accorded it the priority it deserves. A majority of Nigerian journalists are not well trained in reporting science and technology. This problem stem from the fact that they have not been expose to the rudiments of science communication during their training days in school. Hence, venturing into it in real life becomes complex and difficult. In addition, most media organisations in the country do not have modern technological equipment required for science communication coverage. In view of the importance science and technology reporting occupies in the scheme of things in the society the government must ensure that the give adequate attention to this area by providing the human and material resources needed to rejuvenate this specialised aspect of journalism profession in Nigeria.

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References

Ajetunmobi, U. O. (2023). Media framing and construction of socio-political issues in nigeria: (dis)connection between theory and professional ethics? *Mediterranean Journal of Social and Behavioural Research*, *7*(2), 93–101. https://doi.org/10.30935/mjosbr/13053

Allard, A. (2023). Nudging accurate scientific communication. *PLoS One*, *18*(8), e0290225. https://doi.org/10.1371/journal.pone.0290225

Anyanwu, B. J. C., Okolichukwu, A. V., & Okodogbe, P. E. (2019). The role of the mass media in national development. *IMSU Journal of Communication Studies*, *3*, 113–123. https://imsujcs.com/Journals/archives/vol3/010.pdf

Batta, H. E., & Iwok, U. (2019). Perception of science communication culture by communication scholars in a periphery nation. *The Nigerian Journal of Communication*, *16*(2), 523–550. https://tnjc.org.ng/wp-content/uploads/Vol16N2Full/Perception-of-Science-Communication-Culture.pdf

Bauer, M. W., Yulye, J., Ramos, R., Massarani, L., Amorim, L., & Howard, S. (2013). *Global science journalism report: Working conditions and practices, professional ethos and future expectations*. Science, Development Network, London School of Economics, and Political Science. https://eprints.lse.ac.uk/id/eprint/48051

Bello, M. S. (2021). Issues and trends in science education for sustainable economic development in nigeria. *New Trends in Science, Technology, Management and Social Sciences in Africa*. https://acjol.org/index.php/vjstm/article/view/1779

Billingsley, K. (Ed.). (2020). *Science, technology, & society: A student-led exploration*. Pressbooks. https://pressbooks.pub/anne1/chapter/conclusion

Carvalho, L. C., Jeleniewicz, M., & Vanková, Z. (2021). Business models for digital economy: Good practices and success stories. In L. C. Carvalho, L. Reis, A. Prata, & R. Pereira (Eds.), *Handbook of research on multidisciplinary approaches to entrepreneurship, innovations and icts* (pp. 1–21). IGI Global. https://doi.org/10.4018/978-1-7998-4099-2.ch001

Chen, W., Zhang, W., & Li, L. (2021). Precise transmission for covid-19 information: Based on china's experience. *International Journal of Environmental Research and Public Health*, *18*(6). https://doi.org/10.3390/ijerph18063015

Çobaner, A. A. (2021). Representation of syrian children in turkish media from a child-oriented rights journalism perspective. In F. Özsungur (Ed.), *Handbook of research on policies, protocols, and practices for social work in the digital world* (pp. 355–375). IGI Global. https://doi.org/10.4018/978-1-7998-7772-1.ch020

Davidson, W. P. (2025). Mass media and social media. In *Encyclopedia britannica*. https://www.britannica.com/topic/public-opinion/Mass-media-and-social-media

Dickson, D. (2012). Science communication: An essential component of development strategies. *The UNESCO Courier*. https://overseas.mofa.go.kr/unesco-en/brd/m_8666/view.do?seq=674606

Dönmez, I. (2023). Newspapers in science communication: A content analysis on science and technology news. *İstanbul Gelişim Üniversitesi Sosyal Bilimler Dergisi*, *10*(1), 93–112. https://doi.org/10.17336/igusbd.915432

Dutta, A., & Batta, H. (2013). Theoretical and practical perspectives on science communication around the world: A literature review. In D. Wilson & H. Batta (Eds.), *Science, health and environmental communication* (pp. 1–53). Ibadan University Press.

Elías, C. (2018). Science journalism as an academic discipline: The fusion of western media and science seen from a literary and social perspective. *Communication Papers – Media Literacy and Gender Studies*, *7*(13), 163–172. https://e-archivo.uc3m.es/rest/api/core/bitstreams/8b00c94d-39dc-4790-9434-eb5869b84731/content

Elliot, K. C. (2019). Science journalism, value judgments, and the open science movement. *Frontiers in Communication*, *4*, 71. https://doi.org/10.3389/fcomm.2019.00071

Fairbank, V. (2025). Should science journalists know science? *Canadian Journal of Philosophy*, 1–19. https://doi.org/10.1017/can.2025.3

Flatow, I. (2024). *Science journalism is shrinking – along with public trust in science*. Retrieved October 20, 2024, from https://www.sciencefriday.com/segments/science-journalism-trust-in-science

Funk, C., Gottfried, J., & Mitchell, A. (2017). *Niche information sources are most trusted to get the fact right about science*. Pew Research Center. https://www.pewresearch.org/journalism/2017/09/20/niche-information-sources-are-most-trusted-to-get-the-facts-right-about-science

Gordon and Betty Moore Foundation. (2018). *Just the facts: The importance of accuracy in science journalism*. Retrieved October 20, 2023, from https://www.moore.org/article-detail?newsUrlName=just-the-facts-the-importance-of-accuracy-in-science-journalism&tagToFilterBy=ab660061-a10f-68a5-8452-ff00002785c8

Guenther, L. (2019). Science journalism. In J. Nussbaum (Ed.), *Oxford research encyclopedia of communication*. Oxford University Press. https://doi.org/10.1093/acrefore/9780190228613.013.901

Holesovsky, C. (2021). *The science of science communication*. Retrieved October 20, 2024, from https://www.aldacenter.org/thelink/posts

Ineji, P. U. (2014). Print media coverage of science: The fear and myth. *Mkar Journal of Media and Culture*, *1*(2), 90–95.

Jegede, E. (2017). From modernisation to alternative paradigm: Development in history an ideological implications of unequal relations for the periphery. *LWATI: A Journal of Contemporary Research*, *14*(4), 274–300. https://www.ajol.info/index.php/lwati/article/view/169193

John, S. G. (2023). Impact of media messages on containment of coronavirus pandemic in nigeria. *Journal of Public Health in Africa*, *14*(2), 2048. https://doi.org/10.4081/jphia.2023.2048

Joubert, M. (2015). *Science communication: An introduction to theory and trends*. Retrieved October 20, 2024, from https://www.drussa.net/drussa.mobi

Kapur, R. (2018). *Role of media in the development of education*. Retrieved October 20, 2024, from https://www.researchgate.net/publication/323725768

Keefer, P., & Khemani, S. (2014). Mass media and public education: The effects of access to community radio in benin. *Journal of Development Economics*, *109*, 57–72. https://doi.org/10.1016/j.jdeveco.2014.03.010

Kulkarni, S., Thomas, R., Komorowski, M., & Lewis, J. (2022). Innovating online journalism: New ways of storytelling. *Journalism Practice*, *17*(9), 1845–1863. https://doi.org/10.1080/17512786.2021.2020675

Lewenstein, B. V. (2015). Science and media. In J. D. Wright (Ed.), *International encyclopedia of the social and behavioural sciences* (2nd ed., pp. 163–166, Vol. 21). Elsevier. https://doi.org/10.1016/B978-0-08-097086-8.95066-9

Liao, C.-H. (2023). Exploring the influence of public perception of mass media usage and attitudes towards mass media news on altruistic behaviour. *Behavioural Science*, *13*(8), 621. https://doi.org/10.3390/bs13080621

Mahr, N., Michael, R., & Scalia, S. (2023). *Research & development: R&d definition, process & examples*. Retrieved October 20, 2024, from https://study.com/academy/lesson/what-is-research-and-development-definition-methods-examples.html

Mamboleo, G., Chebutuk, R. D., & MAtu, N. (2023). Science as a beat in journalism: Current status and implications for the future. *Journal of Media and Communication*, *2*(1), 66–72. https://doi.org/10.51317/jmc.v2i1.375

Marín-González, E., Navalhas, I., Dijkstra, A. M., de Jong, A., & Luís, C. (2023). Science journalism in pandemic times: Perspectives on the science-media relationship from covid-19 researchers in southern europe. *Frontiers in Communication*, *8*, 1231301. https://doi.org/10.3389/fcomm.2023.1231301

Matsilele, T., Msimanga, M. J., Tshuma, L., & Jamil, S. (2024). Reporting on science in the southern african context: Exploring influences on journalistic practice. *Journal of Asian and African Studies*. https://doi.org/10.1177/002196231224668

McKenna, J. (2025). *Growth of open science in africa*. Retrieved April 20, 2025, from https://blog.mdpi.com/2025/04/15/open-science-in-africa-2

Namanji, S., & Ssekyewa, C. (2012). Role and nature of research in development. *Makerere Journal of Higher Education*, *4*(1), 1–10. https://ajol.info/majohe

Nwachukwu, S. T., & Udenze, C. (2019). Science, technology and innovation (sti) policy and the technology development of nigeria: Prospects and challenges. *Proceedings of the 2019 LGT-UNN International Multidisciplinary Conference on Technology*. https://lgt-unn.unn.edu.ng/wp-content/uploads/sites/219/2018/06/NWACHUKWUST_STI.pdf

Nwafor, K. A. (2021). *Science and technology reporting*. National Open University of Nigeria.

Nwagbara, G. U., & Azoriwa, E. C. (2018). Owerri journalist's attitude towards science and technology reporting. *Novena Journal of Communication*, *6*, 1–11.

Ogah, A. I., Alom, K., Gbakighir, M., Ogayi, A. J., & Awuna, G. (2022). The media in the containment and management of the spread of covid-19 pandemic in nigeria. *Mkar Journal of Media and Culture*, *7*(1), 262. https://www.researchgate.net/publication/372524658

Okon, G., & Eleba, T. (2013). Information technology and journalism practice in nigeria: A survey of journalists in portharcourt metropolis. *Review of European Studies*, *5*(5), 111–118. https://doi.org/10.5539/res.v5n5p111

Olaniyi, F. O. (2020). Influence of mass media in the promotion of community development programmes in akinyele local government area of oyo state, nigeria. *American International Journal of Nursing Education and Practice*, *1*(1), 1–11.

Oyero, O. (2012). *Development communication and broadcasting*. National Open University of Nigeria.

Paul, S., & Rai, M. (2023). The role of the media. In S. N. Romaniuk & P. N. Marton (Eds.), *The palgrave encyclopedia of global security studies* (pp. 1278–1286). Palgrave Macmillan. https://doi.org/10.1007/978-3-319-74319-6_277

Pinto, M. F. (2020). Open science for private interests? how the logic of open science contributes to the commercialisation of research. *Frontiers in Research Metrics and Analytics*, *5*, 588331. https://doi.org/10.3389/frma.2020.588331

Raju, R. (2019). *Role of media in education*. https://www.researchgate.net/publication/362945587

Ritakumari, S. (2019). Educational media in teaching learning process. *Bhartiyam International Journal of Education & Research*, *8*(3), 7–13. https://www.gangainstituteofeducation.com/documents/Singh-Ritakumari.pdf

Rödder, S., Franzen, M., & Weingart, P. (Eds.). (2012). *The sciences' media connection – public communication and its repercussions*. Springer. https://www.researchgate.net/publication/278027574

Rodney, W. (1972). *How europe underdeveloped africa*. Panaf Publishing, Inc.

Sanusi, B. O., & Omotade, K. M. (2023). Mass media roles as communication tools for national development. *International Journal of Innovative Science and Research Technology*, *8*(11), 1687–1691.

Schäfer, M. S. (2011). Sources, characteristics and effects of mass media communication on science: A review of the literature, current trends and areas of future research. *Sociology Compass*, *5*(6), 399–412. https://doi.org/10.1111/j.1751-9020.2011.00373.x

Schipani, V. (2024). Journalism and public trust in science. *Synthese*, *56*, 204. https://doi.org/10.1007/s11229-024-04701-0

Su, L. Y.-F., Akin, H., Brossard, D., Scheufele, D., & Xenos, M. A. (2015). Science news consumption patterns and their implications for public understanding of science. *Journalism and Mass Communication Quarterly*, *92*(1), 1–20. https://doi.org/10.1177/1077699015586415

Svendsen, B. (2020). The nature of science and technology in teacher education. In U. Kayapinar (Ed.), *Teacher education – new perspectives*. IntechOpen. https://doi.org/10.5772/intechopen.95829

Tirmizi, S. M. A., Malik, Q. A., & Hussain, S. S. (2020). Invention and open innovation processes, and linkages: A conceptual framework. *Journal of Open Innovation: Technology, Market, and Complexity*, *6*(4), 159. https://doi.org/10.3390/joitmc6040159

Tran, M., & Nguyen, A. (2023). Besieged from all sides: Impediments to science journalism in a developing country and their global implications. *Journal of Science Communication*, *22*(04). https://doi.org/10.22323/2.22040204

Tsanni, A. (2021). *Unique models fuse science with journalism in nigeria*. Retrieved October 20, 2024, from https://www.theopennotebook.com/2021/01/19/unique-models-fuse-sciene-with-journalism-in-nigeria

UNESCO. (2011). *Media coverage of science and technology in africa*. https://www.upf.edu/pcstacademy/_docs/cosce_en_03.pdf

UNESCO. (2019). *Access to information: A new promise for sustainable development*. https://unesdoc.unesco.org/ark:/48223/pf0000369162

Waithera, H. W. (2019). *Science in the media: African science desk baseline assessment report*. African Academy of Science. Nairobi.

Yin, L., & Yan, Y. (2021). Science and technology through mass media. In L. Yin & Y. Yan (Eds.), *Science communication practice in china* (pp. 153–171). Springer. https://doi.org/10.1007/978-981-16-3203-7_9