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Towards Enhancing Accessibility and International Collaborations: Emmanuel Wallerstein and the Relevance of the Open Science Approach for African Researchers

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Abstract

The problem of inadequate research funding in Africa is complex, stemming from various historical, economic, political, and structural obstacles. Collaboration in data sharing could encourage and support African researchers in undertaking research projects with limited resources. The challenge with this idea is that most prominent research and available data are behind paywalls established by publishing companies. To address this issue, which is also a global concern, there have been calls for an open science approach, intended to help scholars and researchers, to some extent, overcome the financial constraints associated with research. Using qualitative desktop methods, this paper explores the potential of the open access approach to help African researchers' enhanced accessibility and foster international collaborations, positively contributing to knowledge construction and

legitimation in Africa. It is argued that everyone has a stake in science, and therefore, researchers and scholars worldwide should have the opportunity to participate as consumers, evaluators, or producers of research and knowledge. Consequently, all stakeholders need to embrace the open science approach, which is seen as a powerful force for positive change in academia, science, and education—making knowledge accessible to all and fostering a more inclusive and equitable world. It is also envisioned that the open science approach could significantly aid African scholars and researchers in contributing to the decolonisation and legitimation of knowledge.

Keywords: *Open Science, International Collaborations, IKS, Social Sciences*

1. Introduction

It is now widely accepted that for African countries and people to develop, there needs to be a greater focus on and investment in various areas of research. Notably, “African countries’ individual and collective aspirations of economic development through research and innovation are in line with trends worldwide” (Mugwagwa et al. 2019: 7). This lends credence to the argument that engaging in research is one of the surest ways of moving the continent forward from the myriad of socio-economic and political problems that bedevil it. Perhaps this is more necessary in the project of knowledge decolonisation and the call for African scholars to contribute to the intellectual heritage in knowledge construction at national, continental, and global scales (Onwuegbuchulam, 2023). For this to happen, African scholars need to be equipped with the resources to engage in meaningful research. This reality brings to the surface the challenge of the lack of resources for research on the continent and the need to come up with viable solutions. The problem of inadequate research funding in Africa is complex, stemming from a variety of historical, economic, political, and structural obstacles (Akuru, 2019; Arvanitis and Mouton, 2019; Mugwagwa et al., 2019). Many African nations emerging from colonial rule had underdeveloped educational and research systems as the colonial powers focused more on resource extraction than on fostering local knowledge creation (Ndlovu-Gatsheni, 2017; Mugwagwa et al., 2019). In addition, following independence, many African countries experienced economic instability, political unrest, and conflicting priorities, leading to minimal investment in research and development (Akuru, 2019; Ndlovu-Gatsheni, 2017). It is noted that many African governments allocate only a small fraction of their GDP to research and development. For

instance, the African Union (AU) recommends that countries allocate at least 1% of their GDP to research and development (AU, 2024), yet most fail to meet this recommendation. Consequently, most African research institutions frequently depend on international donors and organisations for financial support, which can be inconsistent and aligned more with the donors' interests than with the actual needs of the local context (D'Aiglepiepierre and Botton, 2020).

It is noted that, as in other regions globally, nations in Africa have been investigating various strategies, institutional changes, frameworks, and systems aimed at improving the efficiency and effectiveness of funding and financing for research and innovation (Mugwagwa et al. 2019). Despite the need to find ways and various strategies to improve research funding and financing, there may be other ways in which African scholars could be assisted to participate in research and contribute to the global construction of a knowledge enterprise. The reality is that ultimately, there should be proper collaboration and linkages between African scholars and those in more advanced nations of the world. The collaboration in data sharing could be a way of encouraging and helping African researchers to undertake the project of research with limited resources. The problem with this idea is that most prominent research and available data remain behind paywalls established by publishing companies. This becomes an issue, as resource-strapped African researchers cannot afford such bills, hence the idea behind the open science framework. To attempt to ameliorate this issue, also seen as a global one, there have been calls for an open science approach, which is envisaged to assist scholars and researchers in overcoming, to a certain extent, the financial constraints on engaging in research. Open science is an approach for conducting research and sharing findings that aims to ensure that research and data are accessible to all individuals, irrespective of their geographic location, academic qualifications, or economic status (Garcia Aristegui and Rendueles, 2014; Okafor et al., 2022). It is noted that the open science movement is gaining traction across different scientific fields globally (Babini and Rovelli, 2020; Manco, 2022).

Utilising Emmanuel Wallerstein's (1996) views on the Gulbenkian Report, which calls for opening the sciences, this qualitative desktop study explores the validity of the open science argument to the need to enhance accessibility and international collaboration in research. As such, the paper problematises the inability of African researchers to collaborate with scholars in other regions and to engage in meaningful

research as a result of limited resources, proposing that this is perhaps all the more reason why the open science approach and argument are a valid one towards enhancing African researchers' accessibility to data and encouraging international research collaboration. The paper is structured in three main sections – the first section explores the conceptual and theoretical perceptions that ground the study; the second section explores the open science argument and the numerous reasons for the proposal of the approach in the contemporary research arena; the third main part will attempt to theorise on how the Open the Social Sciences call and the open science argument could be relevant to African scholars and their effort to overcome the marginalisation of the continent in the global knowledge production project.

2. Methodology

The paper's scope is largely conceptual, to advance a conceptual understanding of what 'open science' and data sharing may mean for African researchers and the broader decoloniality project. The construction of this conceptual study is informed by utilising Emmanuel Wallerstein's (1996) views on the Gulbenkian Report, which calls for opening the sciences. As such, the paper relies on the theory adaptation method, which forms a key component of conceptual research. Theory adaptation is the re-evaluation and reconsideration of an established theory by testing and utilising the established theory alongside other theories or concepts. Theory-based adaptation was developed as a contribution by introducing alternate frames of reference to propose an innovative perspective on an extant conceptualisation (Jaakkola, 2020).

The conceptual framework demonstrates the relationship between the variables of a study, provides a narrative explanation and summarises the key terms utilised in the study. The logic behind the use of this methodology is that it is concerned with discourse analysis and interpretative analysis of events linked to the theme. The paper is hinged on key concepts of open science and data sharing, which are domain theories and central terms used in the adaptation of theory. In this regard, the various concepts are adjusted to suit and accommodate the concepts of open science, data sharing and international collaborations for African researchers. Therefore, the use of multiple concepts allowed for conceptual integration. The paper builds on a combination of key concepts to provide new insights and to offer an enhanced view that links unconnected concepts.

Conceptual Perspectives

Emmanuel Wallerstein on “Open the Social Sciences”

Wallerstein et al. (1996), in the Gulbenkian Commission Report titled *Open the Social Sciences*, examined the historical problem of the separation between the “two cultures” that led to the development of social science. The report initially examines the historical formation of social science as a body of knowledge and investigates the reasons for its division into a specific array of relatively standardised disciplines, a process that occurred from the late eighteenth century until 1945. It subsequently highlights how global events since 1945 have challenged this intellectual compartmentalisation and consequently reopened discussions regarding the organisational frameworks established during the earlier period. Lastly, it addresses how the social sciences can be thoughtfully restructured in light of this history and current discussions. On this, Wallerstein (1996) primarily focuses on the nature of social sciences emerging from this historical context in the 21st century and beyond. As stated by Wallerstein (1999:1), “This involves discussing how the social sciences have been shaped over time, identifying the present challenges to these constructs, and exploring the possible alternatives for the upcoming decades and century.”

To enhance the social sciences, the Gulbenkian Commission Report proposes restructuring and expanding the focus of the social sciences to function as a reconciliatory unit between the humanities and natural sciences (Wallerstein et al. 1996). There is also an emphasis on the need to enhance the accessibility of research data and to encourage international collaboration in research, especially within the social sciences. Beigel (2023) affirms that the “Open the social sciences” report identified the need to abandon Eurocentrism and promote multilingualism, interdisciplinarity, the transparency of research processes and international collaboration. Phungula (2026), in her work, argues that there is a need to debunk the notion that knowledge production is the prerogative of the Global North and that Global Africa has no role to play in this regard. This call points to the need to reject certain practices at centres of learning and knowledge production that encourage outdated disciplinary divisions, Western universalism, and methodological positivism while encouraging the integration of all scientific knowledge through what it referred to as ‘pluralistic universalism’ (Burawoy, 2007:137). There are two significant obstacles to this: the first involves the practices of the most engaged academics; the

second pertains to the requirements of those who manage financial resources, including university leaders, national governments, intergovernmental organisations, and both public and private funding bodies (Wallerstein, 1999: 48). To these, one would add the numerous efforts by corporate research institutions and publishers who hold access to available research data and put it behind exorbitant paywalls. This, it is argued, hinders the effort to open the social sciences and to transform the knowledge construction processes globally and in Africa, especially. Hence, Wallerstein et al.'s (1996) views on opening the social sciences can only be realised through enhanced accessibility to research data and international collaboration in research (Beigel, 2023). It can be surmised that this is also at the root of the open science argument.

Open Science Approach

Open science is an approach to scientific research and dissemination that seeks to make research and data freely available to everyone regardless of geographic location, academic background, or socio-economic positioning (Beigel, 2023). The open science movement has gained momentum across multiple scientific fields across the globe. Open science is a powerful concept that is crucial to the global capacity to address many of the fundamental issues that humanity will continue to face. This is particularly befitting considering that science access is a major factor in the advancement of scientific research in the developing world (Wallerstein et al., 1996). The advent of the COVID-19 pandemic gave rise to much-needed international debates around the movement. The movement has implications and benefits at various levels, including cultural, geopolitical and socio-economic levels. Overall, embracing open science can lead to more transparent, efficient, and impactful research outcomes that benefit society. This piece seeks to explore opportunities and possible complexities of open science through various perspectives.

From a socio-economic standpoint, open science can level the playing field by providing equal access to scientific resources for researchers and institutions regardless of their background and financial resources. Open science can promote inclusivity by making scientific knowledge accessible to people from different cultural backgrounds and locations, creating a healthy balance between producers of knowledge, transmitters, and consumers of knowledge. Open science has the potential to advance socio-cultural and technological transformation. In

addition, the movement can also allow for favourable conditions for researchers all over the world to make meaningful contributions to research data. This can potentially lead to more innovation, greater collaboration, and a multipolar scientific global order. Furthermore, open science has the potential to foster global collaboration and cooperation in addressing cross-cutting challenges that transcend national boundaries, including pandemics and climate change. Open science can also mitigate concerns of data superiority and dominance, manipulation, sovereignty, and control. In addition, open science can assist in the preservation and dissemination of various traditional knowledge systems and practices. This view is reiterated by Syed and Khathawala (2022), who argue that culture and diversity should not be viewed as extra or optional within the open science movement but should rather be considered as a foundational issue that can infuse all aspects of research within an open science framework.

Garcia Aristegui and Rendueles (2014) consider open science to be often framed as apolitical, but these authors believe this is not the case. Instead, they agree that openness, which may be considered within the meaning of equity and access, is ultimately influenced by economic inequalities that exist and play out in the international arena. This reality denotes serious consequences for the movement, considering that the various mechanisms of knowledge production, reproduction, transfer, and transmission of knowledge among international participants are not neutral. Instead, these are political decisions that are often determined by global power dynamics, which speak directly to the realist unequal power relations in the international arena (Manco, 2022). Asymmetric power dynamics exist in all sectors of society, and the sciences have not been excluded. The political nature and inherent power dynamics of the open science movement may be observed in the involvement of international and regional organisations in the furthering of the open science agenda (Babini and Rovelli, 2020). In this regard, several international organisations and scientific institutions around the globe have been at the forefront of issuing recommendations and policies for the implementation of open science practices (Vicente-Saez and Martinez-Fuentes, 2018).

3. Results and Discussion

The Open Science Approach and Contemporary Research Arena

The inclusivity of open science has the potential to close the science, technological, and innovation gap and inconsistencies between and within nations (Okafor et al., 2022). The movement, if implemented in accordance with its underlying principles, has the potential to create a more democratic, inclusive, and truly global approach to science. By removing financial, geographical, and institutional barriers, open access to scientific knowledge opens doors to a more equitable, realistic, representative, and diverse participation and contribution to the global scientific agenda. However, without an intentional policy and implementation framework, the movement will continue to reproduce existing power imbalances that it was designed to disassemble. The traditional science research network was not designed as an equitable social-structural movement; as such, the current structure has perpetuated inequality, classism, and gender-based power dynamics. This suggests that there is a need to address these complexities and challenges posed by the movement if we are to achieve an equitable and inclusive open science (Syed and Kathawalla, 2022). For example, addressing challenges of funding and leadership at different levels of educational, research, and government parastatals may be pivotal in charting a new course for open science in global Africa.

A key component of the open science movement is the push for openly available and accessible data. Making data accessible has many scientific and social benefits. To begin with, it allows diverse populations and researchers to evaluate the accuracy of claims made in published work through engaging the analysis initially conducted as a means of validity. Moreover, such rigour in research may assist in checking and avoiding errors that may be overlooked in scientific research. Moreover, such processes may assist researchers in identifying alternative models that may be utilised to assess the robustness of findings in research. With open science, barriers are dismantled so that anyone, regardless of their background, has access to scientific journals, the datasets necessary to replicate any methodology, re-evaluate findings, and access to instrumentation and remote computers. Moreover, open data has a generative function, in that it may afford researchers opportunities and data sets to test different questions from those reported in published work. Open science may enable transparent research, as well as opportunities for secondary analysis of existing research and data.

Overall, engaging in open science practices and collaborating with other researchers in the open science community can provide numerous opportunities for advancement, collaboration, and positive impact within the research community. By embracing open science principles and fostering collaborative relationships, researchers can collectively work towards a more transparent, inclusive, and impactful research ecosystem. Moreover, it is argued that open science has been shown to help bridge the evidence-policy divide, with assertions that it can increase policymakers' use of publicly available scientific discoveries and data (Reichmann and Wieser, 2022).

Several complexities surrounding open science require consideration. To begin with, there is the issue of privacy and ethical issues around data, which may pose a challenge to the success of the movement. This speaks to data being handled ethically and also maintaining privacy where necessary. The movement also poses challenges with respect to conventional intellectual property rights, including patents and copyrights. The open science movement may pose a challenge for researchers to share their work and data while still maintaining their rights to intellectual property. The success of open science is reliant on quality publications (Ali-Khan et al., 2018). To achieve this, the movement would need to maintain the quality and integrity of research outputs. This requires the establishment and maintenance of effective and sustainable peer review mechanisms. It is worth noting that ensuring the credibility of openly shared research can be complex. Navigating these complexities requires thoughtful consideration, collaboration, and dialogue among stakeholders in the research community to ensure that the benefits of open science are maximised while addressing potential challenges. Related to this is the publish-or-perish way of thinking in academia and research; this way of thinking has somewhat compromised the quality of publications and given rise to the rise of predatory journals. A preoccupation with inclusion in the open science movement may exert unnecessary pressure on researchers from various parts of the world.

Science has, throughout the generations, been dominated by Eurocentric traditional research practices (Phungula, 2026). In line with Western knowledge production, reproduction, and transmission, scientific research has often been dominated by a small number of high-income European countries. Various scientific fields have traditionally been hierarchical and often controlled by a relatively small, privileged group of researchers and institutions. This practice has been best

described by Syed and Kathawalla (2022) as an oligarchy. This oligarchy has served a major gatekeeping function within the sciences, restricting access to grants, publications, and opportunities. Unsurprisingly, ethnic minority researchers from the non-Western world have not, by and large, been a part of the oligarchy (Syed and Kathawalla, 2022). Open science initiatives in their current form have the potential to preserve an elitist agenda and disregard justice, equity, diversity, and inclusivity. The open science movement is a direct threat to this conventional structure of the scientific field. The principles of transparency and accessibility lead to another desirable and important feature of science: accountability. The open science movement seeks to lay bare the processes by which achievements are attained. In this way, other practitioners can have confidence that research and scholarly activity are rewarded based on their merits, rather than on other factors. In this way, the open science movement strives to adopt a democratic approach, where all can participate regardless of career stage, institution, or country of residence, and thus seeks to break down conventional power structures that often represent the international order of geopolitics. In light of this reality, the main critics of the open science movement are often the senior and established researchers who have benefited from the existing conventional model (Syed and Kathawalla, 2022).

Open science is undoubtedly beneficial, but it embodies diverse challenges in global Africa and other parts of the third world. The movement in the non-Western world may involve some level of restriction in research flexibility, time cost, and poor or non-existent incentive structure (Allen and Mehler, 2019). Another barrier noted by Mwelwa et al. (2020) is around language limitations; for example, open science in Africa is often available in English, which poses a challenge to science communication. There is a greater need for the inclusion of understudied and underserved minority populations within scientific research. As such, it may be argued that addressing equity and inclusion in open science is crucial for promoting diversity and accessibility in research. The success of an international open science also relies on accessibility. Efforts towards accessibility not only mean access to open science platforms and user-friendly tools but also accessibility regardless of scientists' career stage, employment stability, financial circumstances, country of origin or residence, and cultural context (including their race, gender identity, and ethnicity), and those living with disabilities.

The design of modern digital technologies, including open science, typically reflects the working conditions of researchers in the First

World. This includes implicit assumptions about external factors such as inherent escalation of costs exacerbated by foreign exchange instability, access to the internet, bandwidth speed, availability of financial resources, geopolitical stability, and the publishing industry's preoccupation with maximising profits at all costs (Ali-Khan, 2018). Other scholars (Steiner et al., 2005; Les Cottrell, 2013) have noted the low internet penetration in Africa compared to the developed countries, and even when available, the speed is typically slower and more expensive. This reality challenges the goal to foster equity and inclusion of global Africa in open science. One notable reality of open science is the inherent inequality that can be traced back to deeply rooted power inequities within science. However, one of the major gaps that remains in the open science movement is that it has not focused enough on the needs of underrepresented scientists, including women and racial and ethnic minority groups. Various suggestions have been put forth about the inclusion of the non-Western world in the movement. These may include sustainable and equitable funding opportunities, stable and affordable internet, infrastructure, leadership, policy development, proper monitoring, and evaluation (Okafor, 2022).

Several studies suggest that there is a lack of incentives for open science in the current research reward frameworks. Previous research has established that the feasibility of open science is highly reliant on incentives (Manco, 2022). Although the vast majority of scientists support open science, few participate (Heise and Pearce, 2020). As such, there is a need for adjustment and restructuring to make room for the alignment of open science policies (Armeni et al., 2021). In global Africa, researchers who may be informed about the movement may be reluctant to participate due to the lack of incentives (Allen and Mehler, 2019). This reality speaks directly to the need to restructure the current incentive policies within research institutions. The current incentive mechanism of contemporary academia generally does not promote data sharing before publication (Manco, 2022). Moreover, a recognition system different from the 'publish or perish' approach is needed to improve the adoption of open science (Howe et al., 2017). In this regard, Robinson-Garcia et al. (2020) assert that science policies should introduce metrics of openness.

The existing incentive mechanisms do not promote these open science practices but instead hinder them by incurring opportunity costs of using the time to conduct activities that are not valued by the evaluation and reward system (Fressoli and Arza, 2018). This is argued

to be a major factor for the championing of the reconfiguration of incentive systems for open science mainstreaming. In this regard, Funamori (2017) proposes a fundamental reform of research evaluation and reward. Writing about the broader open data movement, Levin et al. (2016) put forth recommendations for reformation of promotion and tenure policies. On a similar note, Howe et al. (2017) highlight the need for institutions of higher learning to put in place mechanisms to train, support, measure, evaluate and incentivise work that fulfils open science principles (Howe et al., 2017).

The first benefit of open science is its ability to promote networking and collaboration among researchers and research funders or with other stakeholders from across the globe (Okafor, 2022). A key deciding factor in the inclusivity of open science lies in collaborations not only between the Global North and the Global South but also within and between global Africa. This suggests the urgent need to actively encourage, promote, and support diverse representation in research collaborations, leadership positions, and decision-making processes. This entails the inclusion of underrepresented groups to bring a variety of perspectives to the table. Drawing from the democratic values that underlie the open science movement, collaboration has been a core aspect of the new scientific process (Forscher et al., 2020). Whereas it has long been the case that work was valued for being sole-authored, there is a growing pattern toward a more diverse set of researchers to engage with and build upon existing knowledge. Encouraging open collaboration and data sharing may challenge traditional research practices. Furthermore, the movement may promote broader dissemination of findings, increasing visibility and impact within the research community.

The future of a global open science movement requires policy support for equity and inclusion. This suggests a policy that is geared to tackling diversity considerations and a prioritisation of inclusivity, equity, and representation. Moreover, the vision of an efficient open science requires the collaboration of various stakeholders who have a shared commitment to equity and inclusion in research. By implementing these solutions and fostering a culture of equity and inclusion, the open science community can work towards creating a more equitable and accessible research environment for all researchers, regardless of their background or circumstances.

Emmanuel Wallerstein, the Open Science Approach and African Researchers

Wallerstein et al.'s (1996) call to open the social sciences could be utilised as an argument to ground the proposal for open science towards enhancing the accessibility of research data and international collaboration. Notably, the open science argument proposes removing all restrictions on scientific publications, which is envisaged to assist scholars and researchers all over the world to have access. In our view, this is more relevant to African scholars who have been marginalised in the global arena of knowledge construction and legitimation (Onwuegbuchulam, 2023; Munyaradzi, 2024; Phungula, 2026). As previously ascertained, the fact that scientific papers are hidden behind paywalls makes it impossible for resource-strapped African scholars to access and utilise the needed research data. The reality is that currently most African universities and research centres are finding it more difficult to source funders, leading to the inability of African researchers to cope with the demands of research (Akuru, 2019). There is a need to find a solution to alleviate this constraint to knowledge production in Africa, and we argue that the open science approach could assist in realising inclusive knowledge production.

Apart from the reality that the open science approach will allow the enhancement of data accessibility, we also argue that this will support the knowledge decolonisation project. Notably, Wallerstein agrees that the call to open the sciences demands, among other points, the abandoning of Eurocentrism and the promotion of multilingualism (Wallerstein et al., 1996; Beigel, 2023). Abandoning Eurocentrism and the promotion of multilingualism points to the need to overcome the reality of knowledge imperialism found at African centres of learning (Mamdani, 2011; Ndlovu-Gatsheni, 2018; Onwuegbuchulam, 2023; Phungula, 2026). As such, the abandoning of eurocentrism, as proposed by Wallerstein, also means abandoning structures built on economic and Western utilitarian understanding of development and its concomitant capitalist emphasis on maximisation of profits (Onwuegbuchulam, 2023). The reality is that this focus on economics and the maximisation of profit in different areas of human society has also led to the commercialisation of research and, hence, the restrictions put on research data by publishing institutions. It is then argued that the effort to put knowledge and scientific data under paywalls perpetuates this Western/Eurocentric utilitarian value that promotes prioritisation of

profits. This *modus operandi* constrains the genuine need to enhance the process of research data accessibility in knowledge production. As such, Wallerstein et al.'s (1996) call to abandon Eurocentrism could be extended to the argument to abandon the Western/Eurocentric capitalist practice that is tantamount to the commercialisation of knowledge.

Similarly, Wallerstein et al. (1996) emphasised multilingualism, which, in our view, could also mean promoting knowledge interactions between African scholars and scholars from other parts of the world. Again, this brings the project of knowledge decolonisation in Africa and the mainstreaming of Indigenous Knowledge Systems (IKS) agenda to the fore. For Ndlovu-Gatsheni (2018), this is about epistemic freedom in Africa, which focuses on the challenges faced by African individuals in thinking, theorising, interpreting their surroundings, and writing from their own context, free from the constraints of Eurocentric viewpoints. It is argued that promoting multilingualism agrees with the idea of utilising the social sciences and their methodology to explore how IKS can enrich the global knowledge construction project. This, in our view, could be realised through an open science approach, which facilitates international collaboration, seen in freeing research data to be utilised by all scholars, and African scholars could benefit a lot from this approach. Furthermore, an open science approach could assist African researchers to partner with colleagues worldwide, share resources, and access funding opportunities. By promoting accessibility, collaboration, and efficiency in research, open science can significantly aid African researchers in overcoming limitations related to resources. Embracing open science enables African researchers to address many of the challenges they encounter, resulting in more equitable and impactful scientific progress. As mentioned earlier, African researchers frequently struggle with the high costs of journal subscriptions. The open science model offers free access to research articles, enabling researchers to stay informed about the latest discoveries without financial barriers. Lastly is the notion of transparency of the research process and international collaboration. We envisage that the open science approach could enable African scholars to achieve this – it would enable African scholars who are already cash-strapped to be able to participate in research and international collaboration as research ideas and findings are shared across several platforms.

4. Conclusion

This paper addresses the challenge of a lack of financial resources faced by African researchers, which not only constrains their ability to engage in significant research but also constrains international collaboration in the research agenda. This issue has notably been exacerbated by the reality of the commercialisation of research data, which is often found behind paywalls. It is suggested that this situation reinforces the argument for an open science approach as a means to improve access to data for African researchers and promote international research collaboration. As rightly noted by Ndlovu-Gatsheni (2018) in the 21st century, Africans, the offspring of enslaved, uprooted, colonised, and marginalised peoples, have joined academic institutions globally, asserting with conviction that they are human beings, their lives hold significance, and they originate from valid and credible knowledge systems that can aid humanity in overcoming the current epistemic and systemic crises. This is a good development which can be facilitated when the resource-strapped African scholars are assisted to overcome the problem of the commercialisation of research data, which is often hidden behind paywalls. Hence, the open science argument is supported by Wallerstein et al.'s (1996) views on opening the social sciences. It is a call that could assist African scholars to overcome the hegemony of European knowledge systems and help bring African knowledge systems to the fore, towards overcoming the marginalisation of the continent in the global knowledge construction and production enterprise.

As the open access movement continues to evolve, it remains a powerful force for positive change in academia, science, and education, making knowledge accessible to all and fostering a more inclusive and equitable world. Everyone, regardless of country of origin, has a stake in science; as such, researchers and practitioners from all over the globe should be allowed to get involved as consumers, evaluators, or producers of research and knowledge. Within the movement, the principle of equity and accessibility is intended to directly challenge the established and conventional social-structural context and thus provides a crucial platform for altering attitudes and practices that can promote the diversity of researchers. By democratising access to information, supporting interdisciplinary scientific research, enhancing educational opportunities, and delivering social and economic benefits, open science can close the gap and play a crucial role in creating a more equitable and inclusive global community.

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