

Does the African academy need its own citation index?

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Abstract

Why does being indexed in Web of Science and Scopus matter so much for African journals? And why is getting indexed so difficult? In this paper we revisit the history of the first citation index, the logic behind its highly selective coverage, its persistent under-representation of Africa's journals, and its symbolic importance for many researchers. We ask if the solution is to create an alternative African citation index, or if there are other ways to promote the visibility and findability of African journals. Garfield's company, the Institute for Scientific Information (ISI), launched the first Science Citation Index in 1963. An analysis of extant ISI documentation shows that 95% of the first 615 science journals indexed were published in Europe and America. This coverage changed author behavior and journal choices and reinforced existing status hierarchies. Garfield later justified journal selection decisions mathematically, defending his decision to prioritize 'core' journals, and coining what he called 'Garfield's law of concentration'. In 1973, the ISI launched a Social Science Citation Index, indexing 1,000 core social science journals, again with no African representation. In the 1990s, the indexes were digitized, allowing their data to be mined. The creation of university rankings amplified the reputational importance and commercial value of the indexes. Today Web of Science and Scopus continue to use the 'citedness' of candidate journals by journals already within the index to inform selection decisions. As a result journals published in the global peripheries, in small fields, or in languages other than English, struggle to get indexed. In 2023, if one excludes South Africa, only around 60 of the 30,000 plus journals indexed in Web of Science were published from Sub Saharan Africa. One response is to create an alternative Africa-focused journal index and database. We end by describing the history of attempts to create such an index, including current initiatives. Another is to promote the international visibility and findability of African journals through the provision of high-quality metadata, the use of DOIs and hosting on international portals.

Keywords

Citation indexes, Open Science, journal publishing, Africa, bibliodiversity

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Introduction

In November 2023, the editor of the *Nigerian Journal of Technology* announced that Volume 42, issue 3 of the serial was a ‘brand new’ journal, because it had just been accepted for indexing in Scopus (Nnaji, 2023). This had, Nnaji pointed out, been a long journey. The journal had first been published online in 2012, had already applied for indexing twice, and upgraded their website. In case potential authors doubted the veracity of the claim, they also included a link to the Scopus tracking tool¹. A few months later, the Nigerian political scientist Jideofor Adibe was also celebrating. His March 2024 newsletter marked 20 years of journal publishing by his company Adonis and Abbey. In it he reminded readers that a program set up to ‘help address the question of the high mortality of journals published by Africans’ had led to it launching 21 journals, including seven indexed in Scopus (Adibe, 2024).

For every winner in the indexing game there are many losers. High profile Nigerian medical journals have been delisted from Scopus, including the *West African Journal of Medicine* (discontinued from Scopus in 2021), the *African Journal of Medicine and Medical sciences* and the *Nigerian Journal of Medicine* (both discontinued in 2016). Despite being amongst the top 10 journals for Nigerian scholars, and being indexed in other databases such as the WHO’s African Index Medicus, all three had struggled to attract submissions and keep up their publication schedules. As journals of national or regional medical associations, some had been publishing since the 1980s, relying on the unpaid labor of volunteer editors and reviewers. The *West African Journal of Medicine* was revived in 2021, after a seven-year publishing hiatus. The *African Journal of Medicine and Medical Sciences* has not published an issue since 2021, whilst the *Nigerian Journal of Medicine* has been published since 2021 by Medknow, an imprint of the international publisher Wolters Kluwer.

Why does being indexed in Web of Science and Scopus matter so much for African journal editors? Web of Science and Scopus, a rival index set up by Elsevier in 2004, have become influential multidisciplinary citation indexes, partly because of their selectivity. They claim to provide the global coverage necessary to support the science communication system (Schott, 1991), yet they index a much smaller fraction of journals and research from the majority world than that published in Western Europe and North America (Archambault et al., 2006; Mongeon & Paul-Hus, 2016; Rafols et al., 2019, Asubiaro et al., 2024). Despite repeated critiques of these geographical disparities in coverage, the dominance and influence of these indexes remains.

In this article, drawing on extant historical sources, we show how linguistic, geographical and disciplinary biases were built into Garfield’s Science Citation Index from the very start. Initial decisions about which journals to index reified existing status divides between science in what was in the 1980s called the ‘first’ and ‘third’ world (Gibb, 1995). This was amplified through citation metrics-based journal selection and evaluation processes. Authors prioritized indexed journals for publication, strengthening the reputation of existing academic networks and geographies. Journals from across the majority world suffered as a result. The legacy of these initial indexing decisions are still visible in the indexes’ contemporary coverage. How might this be remedied? If so few African journals are indexed, should Africa build its own alternative citation index? Or would this just create new inequalities? The last part of the paper explores efforts – past and present – to improve the international visibility and findability of African scholarship, and the potential now offered by the Open Science movement.

¹ The journal also provided a link to its Scopus validation: <https://suggestor.step.scopus.com/progressTracker/?trackingID=87AEB0D2DB8706F3>.

A short history of Garfield's index

The idea for an academic citation index was first developed by the American 'information scientist' Eugene Garfield in the 1950s. Fascinated by the challenge of managing growing information flows generated by the post-WW2 growth in science, he had set up his own company in 1955 – the Institute for Scientific Information (ISI). Its first publication was *Current Contents*, a stapled booklet of contents pages of life science journals that research librarians used to decide which journals their institutions should subscribe to. Launched in 1958 with 150 journals, its popularity rapidly grew. By 1967 *Current Contents* covered 1,500 journals in physics, chemistry and the life sciences, supported by university library and corporate subscriptions.

His next invention was inspired by a US legal paper-based research tool called Shepherd's citations. Dating back to the 1870s, it allowed lawyers to research case law and track precedent. Garfield saw the 'shepherdisation' of science as a way of managing the exponential increase in scientific publishing after the Second World War (Garfield, 1955). He saw it as helping librarians identify the most important scientific developments and cope with what he later called 'iatrogenic information overload' (1984). He also felt that scientists ought to know about the existing citations of an article they were also citing, and that links to earlier work would help them to understand the 'transmission of ideas', and the intellectual structure of thought. By counting the total number of citations one could measure the 'impact factor' of an article, and hence quantify its importance (see also Small, 2017).

The story of Garfield's index is also a story of cold war rivalry. As Russia and the US competed for scientific influence, both sides turned to bibliometrics to measure and track science. Garfield was aware of earlier attempts to create comprehensive catalogues of science (1961). Csiszar (2023) traces the origins of Garfield's index to what he calls 'bibliometric imperialism' (Csiszar, 2023, p. 105), such as the unsuccessful efforts by the Royal Society of London to create an International Catalogue of Scientific Literature in the years leading up to World War 1. Work by historians of science (e.g. Guedon, 2001, Daling, 2023, Fyfe, 2017) also trace the impact of commercial journal publishing on this growing information flow.

Garfield's journey is recounted in carefully footnoted detail by Wouters (1999), who notes how the 'Sputnik crisis' of 1957 turned the librarians' problem of bibliographic control into a national information crisis (Wouters, 1999, p. 62). Very early on, Garfield sought to make a pragmatic case for selectivity, arguing that 'lack of complete coverage is not necessarily an argument against a citation index. It is in fact an argument in its favor' (1955, p. 109). Garfield insisted that decisions about which journals to index was based on citation data and expert guidance, but inevitably also on ISI's experience of publishing *Current Contents*, and its track record of selecting the most significant and important journals for abstracting, based on feedback from researchers and librarians. Csiszar suggests that it was simply a 'business decision based on the needs of potential and actual subscribers' (2023, p. 120).

After finally getting funding from the US Navy, Garfield was able to start work assembling the Science Citation Index (Garfield, 1963). After several prototypes with genetics journals, Garfield's first index, published in 1963, assembled citation data from 613 scientific journals. Whilst this included journals from 28 countries, our analysis shows that 70% were published from the US or UK, and nearly all the rest from Europe. This selection was based on a US-based perspective of the scientific landscape. Ten Russian journals were included, along with two from China, three from India, seven from Japan and four from Latin America, but none from Africa. The academic geography of the Euro-American publishing economy was hard-wired into the index from the start.

The initial challenge was keeping the task and costs manageable, given that millions of footnotes, references and citations needed to be typed in manually, stored on magnetic disks and processed on an early IBM computer. Garfield made the most of early computer technology to keep costs down. ISI employed a team of 100 data operators adding data to a central mainframe via desk tapes. Working two shifts five days a week, they were able to process 25,000 references a day (Garfield, 1979). As Csiszar notes, turning footnotes into citations was a 'massively labor-intensive operation' (2023,

p. 120). The index grew and as the SCI began to shape purchasing decisions, journal publishers and editors ‘clamored to get their journals covered’ (Small, 2017, pp. 605-606). By 1966 the Science Citation Index included 1,150 journals, increasing to 2,000 by 1968. Gradually more non-European journals were indexed, but their overall proportion remained small, given the parallel growth in the number of US and European-published series. As more ‘international’ journals were launched or taken over by commercial publishers, having a journal impact factor was a kite mark of the serial’s importance and status (Mills, 2024). Over the next two decades the index doubled in size, and by 1990 it was indexing around 4000 journals. Despite Garfield’s marketing efforts, including several films, and his success at selling his Index to Soviet state agencies (Aronova, 2021), the index never made a profit for ISI.

As soon as it was launched, sociologists and science scholars began questioning the coverage of the index, and the meaningfulness of citation data for different disciplines and regions, given very different citation cultures (Cole & Cole, 1971). Some mocked the idea that objectivity could be achieved by ‘not reading the literature’ Oliver, P. T. (1970). Concerns grew about the disciplinary geographical and linguistic selectivity intrinsic to these indexes. The geographical and linguistic bias of the Science Citation Index (now called Web of Science) against ‘peripheral science’ was first highlighted by science scholars in the 1970s (Narin, 1976). Narin draws on available evidence to suggest that there were between 550-650 African journals being published across the continent in the early 1960s, yet none of these were indexed.

The debates continued. In the 1990s *Scientific American* published a critique of the citation indexes’ systematic discrimination against what were called ‘third world journals’ (Gibbs, 1995). Analyzing 1994 SCI data, Gibbs showed that the percentage of journals indexed from this region world had dropped 40% over the decade from 1983 to 1993 from around 2.5% of all journals in the index, down to around 1.5% (Gibbs, 1995, p. 194). It also highlighted the marked drop in impact factors of several Brazilian and Indian journals over the same period.

Garfield was always quick to respond to these critiques, questioning the quality of third world journals (Garfield, 1983; 1997; Goodwin & Garfield, 1980). Garfield wrote monthly ‘Essays of an Information Scientist’ published in *Current Contents*. Under pressure to justify the index’s selectivity, Garfield had long been aware of Bradford’s law of scattering, named after a British mathematician, that held that the most important literature in any scientific field is published only in a narrow group of journals. As early as 1955, Garfield highlighted the 80/20 distribution of significant articles. In 1971, he returned to this as a justification for journal selectivity. He claimed that ISI’s own work had confirmed what he called ‘Garfield’s law of concentration’, that a ‘basic list of 500 to 1000 journals will account for 80 to 100% of all journal references’ (Garfield, 1971, p. 223) in a field. He noted that ‘25 journals accounted for 20-25% of the 4 million citations’ processed for the 1969 index, before archly pointing out that the ‘implications of this finding for establishing future libraries, especially in developing countries, should be quite obvious’ (1971, p. 223).

The costs of inputting citation data proved a drain on ISI resources, especially as the index grew (Small, 2017). Thompson Reuters acquired ISI from Garfield in 1992, and fully digitized the citation database. The growth in computing power, and the potential this provided for large-scale data mining and analysis, changed the data landscape, as did the arrival of the internet. The index was rebranded as Web of Science, and in 2016 acquired by private equity for £3.5 billion in 2016 and rebranded as Clarivate (Pranckute, 2021). The global influence of citation data was amplified by its use in global university rankings and the rise of national research evaluation policies.

The ‘core collection’ of Web of Science now covers more than 21,500 journals within four different indexes: Science Citation Index Expanded (SCIE), Social Sciences Citation Index (SSCI), Arts & Humanities Citation Index (A&HCI) and the Emerging Sources Citation Index (ESCI)². Clarivate Analytics, the owner of Web of Science and many other information analytics and data products (e.g. Proquest, EndNote) is a major multinational company with an operating revenue of \$2.7 billion in 2022.

2 <https://clarivate.com/blog/unveiling-the-journal-citation-reports-2023-supporting-research-integrity-with-trusted-tools-and-data/>

Elsevier, the largest of the academic publishing houses, based in Amsterdam and London, launched a rival index, Scopus, in 2004. The latter's coverage is around 30% larger than WoS and continues to expand. In 2023 Scopus indexed 29,750 active journals, as well as journal pre-prints and conference papers³. Elsevier markets related services to universities, including support on preparing journals for an application for indexation⁴. Scopus is owned by Elsevier, part of the RELX group, based in Amsterdam and London, with an operating revenue of £8.5 billion and a profit margin of 31%. Both benefit from the European dominance of a 'global' research publishing industry that can be traced back to the start of the twentieth century (Mills, 2024).

Why are so few African Journals indexed in Web of Science and Scopus?

The Ulrichsweb journal directory is a database of almost 90,000 academic journals. Of the approximately 2,200 active academic journals from sub-Saharan Africa included, only 169 are indexed in Web of Science and 178 in Scopus (Asubiaro & Onaolapo, 2023). Of these, more than 100 are published from South Africa. If one excludes South Africa, around sixty journals published from sub-Saharan Africa are currently indexed in Scopus. Only a handful are published in French either wholly or partly – including two from Senegal, one from Mali, and a few from Morocco, Algeria and Tunisia. The number indexed in Web of Science is lower still. The Open Access journal portal DOAJ only indexed 213 sub-Saharan African journals in 2023, of which 142 were from South Africa. Its coverage of Francophone Africa Open Access journals is particularly poor – with only journal one each from Cote d'Ivoire, Burkina and Mali, and none from Senegal⁵. This is fewer than Scopus or Web of Science. By comparison, more than 700 African academic journals are hosted on the respected AJOL platform (Africa Journals Online), of which around 2/3 are active.

About a quarter of the world's journals in Ulrich's are indexed in Web of Science and Scopus, but some regions are covered much more systematically than others. Sub-Saharan Africa is one of the least represented regions (Asubiaro, 2023; Asubiaro et al., 2024). According to Asubiaro, Onaolapo and Mills (2024), 32% of European journals listed in Ulrich's directory are indexed in Web of Science, a figure similar to North American journals. Conversely, a mere 8% of journals from Central and Southern Asia, Eastern and South-eastern Asia, and Sub-Saharan Africa listed in Ulrich's directory are indexed in Web of Science. As a result one could say that Europe and North America are 'over-represented' in Scopus and Web of Science, with overrepresentation rates ranging from 19% to 35%. These geographical inequalities are self-reinforcing, driving publishing choices across the world (Huang et al., 2020; Selten et al., 2020). Researchers in the majority world are incentivized for publishing in, and citing, indexed journals, undermining local and non-mainstream journals and national science systems (Rafols et al., 2019). For instance, many Nigerian research universities have instituted promotion policies that require publications in 'international' rather than Nigerian journals (Mills & Branford, 2022). This is because 'international' journals – often defined vaguely – are seen as more reputable and hence a better judge of the quality of research. This has raised further questions as what counts as reputable 'international' journals (Omobowale, 2014). In some cases, such as at the private Covenant University in Nigeria, 'international' is defined more specifically as journals indexed in the top quartile of WoS and Scopus.

The dynamism of non-Anglophone research ecosystems across the majority world, along with their research outputs and citations, is better captured in regional databases, such as SciELO, redalyc and REDIB, serving Latin America, Garuda serving Indonesia, and the CNKI in China. The levels of underrepresentation of research from countries outside Western Europe and North America in Web of Science and Scopus is made clear. These geographical inequalities in indexing inequalities are compounded by citation practices, whereby individual researchers are most likely to cite indexed work. Whilst there is a growing volume of African scientific production, much of this continues to be overlooked by these indexes (Asubiaro et al., 2024). (Rabkin et al., 1979; Tijssen, 2007). Given

³ <https://blog.scopus.com/posts/scopus-now-includes-90-million-content-records>

⁴ <https://www.elsevier.com/en-gb/connect/journal-indexation-why-does-it-matter>

⁵ Senegal has recently joined this list with the indexation in August 2024 of *Global Africa*

the exponential growth in scientific outputs and citations, existing citation inequalities continue to widen (Horton, 2022; Vanderstraeten & Vandermoere, 2021). Nielsen and Andersen (2021) show how the top 1% of 'highly cited' global scientists are extending their share of publications and citations. South Africa is the only exception to the general pan-African trend, increasing its concentration of 'highly-cited' researchers.

Sixty years after Garfield launched his first index, getting journals indexed in WoS or Scopus remains challenging. The indexes have exacting metrics-based selection and evaluation policies, and regularly delist 'underperforming' journals. Web of Science⁶ uses 28 different criteria to evaluate journals. Journal impact criteria include assessment of content significance and three citation-based metrics: author citations, editorial board citations, and comparative citation data.

Scopus evaluates the journal standing of the 3,500 applications it receives each year according to the 'citedness of journal articles in Scopus'. It also measures the 'diversity in geographical distribution' of editors and authors. Scopus uses citation-based peer benchmarks as part of what it calls 'title enrichment'. Journals have to have a self-citation rate of no higher than 200% of the average for their field, and to have citation rates, numbers of articles, and number of clicks on Scopus as no less than 50% of the average. These metrics discriminate against small journals and those that cater for a relatively autonomous or specialist research community, such as many journals published from African universities. These same metrics are used to assess and delist 'underperforming' journals. Between 2016 and 2020, 536 journals were removed from Scopus, including several from Nigeria.

Both indexes are aware that citation data can be manipulated. Journals within these indexes attract ever more submissions, because of the pressures (and incentives) on researchers to publish. There have been a number of cases of journals lowering their reviewing standards or having special issues 'hijacked' (Moussa, 2021). Both have been accused of unintentionally indexing so-called 'predatory' journals. Their response has been to implement more stringent journal monitoring. Despite the claims of their designers and advocates (Baas et al., 2020; Birkle et al., 2020) the integrity of these indexes is constantly under question. A growing community of scientific watchdogs and 'sleuths' is quick to point out retractions, especially when this involves large numbers in a guest-edited special issue.⁷ Within an 'author-pays' publishing model, publishers and journals are rewarded for accepting more papers, but rapid expansion comes with quality challenges. There are growing numbers of cases of indexed journals being delisted from the indexes, either because of breaches in editorial processes or unusual citation and authorship trends. In response, the indexes set more stringent bibliometric standards for inclusion, using AI tools to detect citation anomalies and authorship patterns. Over-reliance on citations also encourages citation gaming (Biagioli & Lippman, 2020). In an unequal system, many resort to tactics such as self-citation or citation clubs to increase their visibility and scores.

Questions continue to be asked about the indexes' methodological biases (Gallagher & Barnaby, 1998; Seglen, 1992), linguistic biases (Harzing, 2016; Mas-Bleda & Thelwall, 2016; Vera-Baceta et al., 2019), and different cultures of citation (Callaham et al., 2002; Velho, 1986). Critical work has also highlighted the over-representation within the indices of research published in English (Albarillo, 2014), of work from the UK and America (Gingras & Khelifaoui, 2018; Luwel, 1999) and from the natural and physical sciences (Martín-Martín et al., 2018; Mongeon & Paul-Hus, 2016).

Recent analyses reveal the consequences of excluding journals published in languages other than English from the indices. More than 95% of Web of Science (and 92.5% of Scopus) indexed documents are in English (Vera-Baceta et al., 2019). The Ulrichsweb database of journals lists 1,800 African journals publishing in English, around 97.5% of all Africa-published journals, along with 90 published in French (wholly or partly), and 73 that publish articles in Afrikaans. In Web of Science and Scopus journals that will publish in Afrikaans outnumber those publishing work in French by

6 <https://clarivate.com/products/scientific-and-academic-research/research-discovery-and-workflow-solutions/web-of-science/core-collection/editorial-selection-process/editorial-selection-process/>

7 <https://retractionwatch.com/2023/04/05/wiley-and-hindawi-to-retract-1200-more-papers-for-compromised-peer-review/>

three to one.⁸ This shows the under-representation of Francophone West African research within these indexes. Indeed, Afrikaans is among the top 20 non-European scientific languages in Web of Science and Scopus, higher than Arabic and Persian.

A related challenge is that many of Africa's journals are oriented to African concerns and debates. These African problems can seem less relevant to global audiences, and so work in this area is less likely to be published and sometimes less likely to be researched. Some African scholars, in a bid to become globally visible, abandon local problems in favor of 'Northern' conceptual and theoretical debates (Nymanjoh, 2004). This can undermine local research ecosystems, especially if having a strong national or regional publication profile counts for little when it comes to promotion decisions.

Is an African citation index the solution?

Some see the creation of an African citation index as the solution. This has long been the ambition of the Nigerian information scientist Williams Nwagwu, who argues that an autonomous 'citation index could be used to leverage the limited publicity of African resources' (Nwagwu, 2006, p. 11). Nwagwu is critical of the international citation indexes, and the way they 'homogenize, centralize and globalize scholarly performance criteria' (2006, p. 228), and their lack of 'deference to global diversity and complexity' (2006, p. 228). He led CODESRIA's⁹ initiative to develop such an initiative in the 2000s, calling for it to be modelled on the principle of 'Africanism, recognizing and putting African knowledge into a global perspective' (2006, p. 238). When he presented at a 2006 conference at the Centre for African Studies in Leiden, the idea was enthusiastically endorsed (Nwagwu, 2006).

CODESRIA began to seek institutional backing for the index. The hope was that Africa's universities and disciplinary associations would also see the value of the initiative and provide seed-funding. But many of these associations operate on a shoestring, and underfunded university libraries were little better placed. The proposals also failed to attract the support of donors, national governments, or the African Development Bank. Most interested were Elsevier, who were enthusiastic about appending an African index to Scopus. Some within CODESRIA pursued this option, whilst others were suspicious that this would just reinforce the influence and market share of Elsevier's own index. Working with Elsevier also ran against the long history of CODESRIA's commitment to creating a pan-African knowledge community as a way of challenging knowledge inequalities (Hoffman, 2018). There was also the question of whether an African citation index would create new status divides. As negotiations stalled in 2017, a new CODESRIA director faced funding shortfalls, and difficult negotiations with its main Scandinavian funders about its future. The decision was taken that an index was less of a priority for CODESRIA than its research training, mentoring and publications programs, and the index was not included in the organization's strategic priorities.

Some still aspire to creating a comprehensive African journal database as a way of promoting the visibility and findability of African scholarship. This is the vision of the AfricaRVI (African Research Visibility Initiative), set up by the authors along with Nigerian colleagues in 2022. Our aim is to create an inclusive index of around 1,000 active African journals in all the scholarly languages used on the continent, and to generate useful bibliographic and citation data for universities and researchers. Inevitably it will have to establish minimal criteria for inclusion, such as a track-record of regular timely publishing, and basic technological standards. Still at an early stage of development, this may help plug the indexing gap, and generate African citation data, but like all indices, it too will face questions of selectivity and funding.

There are other ways to promote the visibility and findability of African journals, such as the production and sharing of high-quality metadata, the use of DOIs, and the use of platforms such as AJOL, Muse and JSTOR as well as aggregators like EBSCO. Open Science practices also help with findability. Funders such as Wellcome and others are now seeking to build professional capacity within African journals, and INASP has long promoted journal publishing standards. The JPPS

8 There are no French language citation indexes, but Francophone journal databases include [Cairn](#) (with 630+ humanities and social sciences journals) and the [Persee](#) journal portal.

9 The Council for the Development of Social Science Research in Africa

framework (Journal Publishing Practices and Standards), adopted by AJOL (African Journals Online), is one example, which values journals against a three-star evaluation system to support and reward quality enhancements.¹⁰

Conclusion: Global science, African science?

Over the course of 60 years the reach and power of the citation index has come a long way from Garfield's early experiments. Web of Science and Scopus are global infrastructures owned by major multinational companies. Citation data underpins university rankings and researchers are expected to prioritize publishing in indexed journals. Bibliometric data has enabled the post-war world science system to visualize itself as one vast connected circuit of knowledge flows (Mills, 2024), even as these infrastructures reinforce Euro-American dominance of the global research economy.

Citations are no substitute for the relationships of trust that underpins many scientific communities, yet the geographies of academic credibility are often exclusionary (Mills & Robinson, 2021). The linguistic inequalities created by an Anglophone research economy (Chen & Chan, 2021, Rowlands & Wright, 2022) have profound consequences for bibliodiversity (Shearer et al., 2020, Albornoz et al., 2020). Writing from an African perspective, Bhakuni and Abimbola (2021) point out that credibility 'surplus' of one social or epistemic group comes at the cost of a credibility 'deficit' of a marginalized group.

In the future are we likely to see more African humanities and social science journals being indexed, following the path established by Adonis and Abbey? Scopus offers consultancy support to African universities on preparing journals for indexation, providing advice, guidance and training to librarians, researchers and editors alike. This may be an astute commercial strategy for Elsevier, as the continent's research infrastructures continue to develop. African university leaders are aware of the reputational rewards that accrue from getting journals indexed, and some are willing to pay for this consultancy advice. Yet Web of Science and Scopus are designed to support knowledge flows at a global scale, rather than nurture national research cultures and knowledge ecosystems. The challenge is to be simultaneously local and global.

Some scholars and Open Access-oriented librarians call for 'scaling small', rejecting the market-led assumptions that publishing requires economies of scale, and instead nurturing scale through 'intentional collaborations between community-driven projects that promote a bibliodiverse ecosystem' (Adema & Moore, 2021, p. 27). This is a vision that prioritises local community building over profit, fostering diversity and building alliances. Perhaps funders and research policies needs to scale both small and large, supporting a range of different publishing initiatives to promote visibility and resilience. In the short term, an African citation index may be less urgent than sustainable funding for national and regional research infrastructures.

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¹⁰ <https://www.journalquality.info/en/>

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