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ACU Spotlight

Access to research in east and southern African universities

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Many universities in east and southern Africa have impressive online journal collections, but this is rarely the perception of researchers and students, who report that poor access hinders their work. What explains this mismatch, and how can it be addressed? This paper explores the threefold challenge of availability, access, and use of online journals, and considers the interrelated issues of technology, awareness, skills, and campus relationships to understand how access and use can be strengthened. It draws on research at four universities in the region, but its findings have wider relevance for universities across the continent.

Key points

- On average, 79% of the top-ranked international journals were available online, free at the point of use, at the four case study universities. But researchers reported that they struggled to get hold of the journals they needed.

- Access schemes have helped to dramatically increase the *availability* of academic journals across the region. Many countries have established library consortia to coordinate subscriptions at national level.

- The affordability of subscription models still remains a challenge. Continued support will be needed to maintain this level of availability.

- Technology constraints pose significant problems, but access to computers and broadband connectivity is steadily improving. The challenge is to ensure that staff and students can make effective use of this technology.

- Researchers' awareness of the resources available to them is often low, and many are unfamiliar with the key publications in their field.

- Search and discovery skills are often under-developed. Many researchers are unable to find and download what they need, with the result that new research does not take into account the latest work in the field.

- Librarians and information specialists can make important contributions to research training, but links between libraries and academics are often weak.

- Strengthening relationships between librarians, IT professionals, academics and senior managers will be critical to improving access to and use of information in research.

Availability and access

Researchers in sub-Saharan Africa commonly highlight poor access to journals as a serious hindrance to their work. But a number of access initiatives, built on partnerships between librarians and publishers, mean that researchers across the continent have an impressive range of high-quality peer-reviewed material available to them. This includes many of the most important journals from leading international publishers. INASP's Programme for the Enhancement of Research Information (PERii) has negotiated access to over 23,000 full-text journals. Three UN managed schemes include HINARI with over 6,400 journals, AGORA with 1,200, and OARE with 2,900. Discounted access to a range of e-resources is also negotiated by eIFL.

Journal availability is no longer the principal problem. The challenge is to ensure that what is available can be accessed and used.

We worked with four national research universities in east and southern Africa – the universities of Nairobi, Dar es Salaam, Rwanda (NUR) and Malawi (Chancellor College) and took a 'gold standard' of instant access to the latest issue of a journal, available free at the point of use. Using the Thomson Reuters/ISI Journal Impact Factor rankings as a proxy measure we identified the top 20 titles in 15 subject areas – a total of 300 journals. In 2009, 79% of these were available in the four universities through PERii, HINARI, AGORA and OARE.

Availability of top ranked titles at the four case study universities

21%

79%

■ Available   ■ Unavailable
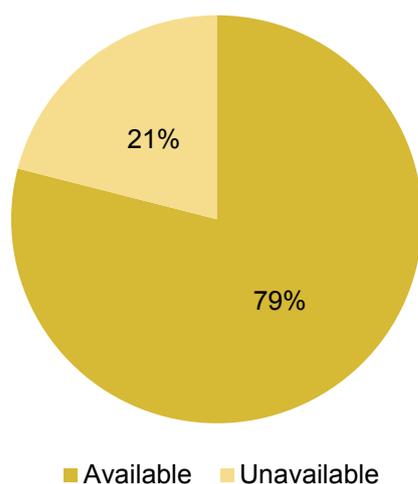
Libraries and national consortia make subscription decisions based on available budgets each year. If universities could afford subscriptions to all of the journals available through these four schemes, they would have 83% of the top titles. By comparison, two leading European universities had 95% of the top titles in 2009. The four African universities are not so far behind their European counterparts. Of course, ISI ranked journals only show part of the picture, and don't include many journals relevant to African research interests. Ensuring that subscription models continue to be affordable and can be sustained remains a challenge. Nevertheless, it seems clear that journal _availability_ is no longer the principal problem. The greater challenge is now to ensure that what is available can be accessed and is used to best effect.

Technology and connectivity

Technology is typically cited as a major constraint. Insufficient numbers of internet-connected computers pose a problem in many universities, as do unreliable internet connections. Computer/ student ratios at the four case study institutions were in the range of one computer to every 20-30 students in 2009, meaning that many students lacked the opportunity to fully explore online resources. But technology is steadily improving. Most academics have computers on their desks, and the majority are online. New undersea cables have connected the region to high-speed broadband networks and, as terrestrial infrastructure is laid, secondary towns and cities are also being connected, while land cables mean that landlocked countries such as Rwanda and Malawi are also benefiting or are set to in the near future.

Technology is steadily improving. New undersea cables have connected the region to high-speed broadband networks.

National research and education networks (NRENs) are particularly critical. The Kenya Education Network Trust (KENET) is creating a dedicated academic high-speed fibre-optic backbone across the country, training university staff to manage their ICT facilities better, and working to influence national policy. At a regional level, the UbuntuNet Alliance is working to improve connectivity between countries, and between Africa and Europe. To be used to best effect, bandwidth also needs to be managed better within universities, to avoid spiralling costs, and to ensure that connectivity genuinely advances research and learning. Poor network management can see valuable and expensive bandwidth quickly exhausted, used for non-academic purposes or by spam and virus traffic.

Universities are making investments in ICTs, but need far outstrips current provision. As technology and connectivity continue to improve, the way these are used is becoming more important. KENET describes this as e-readiness – changing attitudes and behaviours surrounding technology and the uses to which it is put. Libraries and ICT departments therefore need to work more closely together.

Levels of research and postgraduate activity

Low levels of journal use, unawareness of key resources, and unfamiliarity with databases and

journal collections are in part explained by relatively low research activity in many universities, at least of an academic nature, as opposed to short-term consultancy work. Academics struggle to find the time amidst growing teaching duties to undertake research and to supervise postgraduates, and the incentives to do so are often few. Many academics are unable to attend regional or international conferences, and feel isolated from their disciplinary communities as a result. Improving journal access and increasing their use therefore needs to be understood as part of a much broader process of strengthening and enabling research across the continent, rather than the simple supply of 'content'.

In some faculties, the culture of research has been eroded over the years, while in others such cultures have been slow to develop. Departmental seminars are often rare, and academics work as individual consultants rather than as colleagues in scholarship. Perceptions of what is possible are also significant. Many academics don't even expect to be successful in accessing what they need or in ultimately getting their work published.

Discovering and locating resources – awareness is low

Awareness of available resources is often low. Only 40% of those responding to an ACU survey felt that they had a high or good level of awareness and many were unaware of the range of journals and databases already provided for them. Of the titles that users listed as inaccessible to them, 72% were actually readily accessible through their libraries' online subscriptions.

Actual availability of journals reported as inaccessible in the four universities

28%

72%

■ Available ■ Unavailable
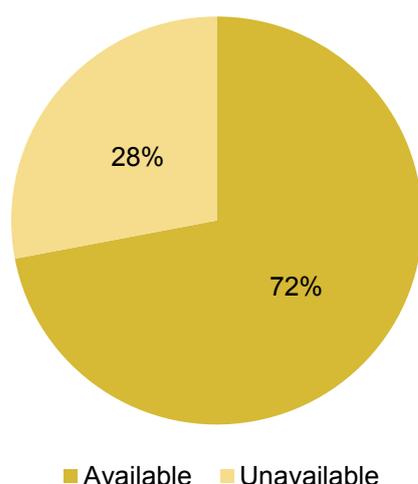
Libraries do work to raise awareness by advertising the databases and journal collections to which they subscribe, but communication is often insufficiently targeted to researchers in specific subject areas. The complexities of entry routes and access points and the subscription collections offered by publishers mean that users are often unaware of what these databases

contain, or how to locate individual journal titles within them. As one researcher commented, 'Using electronic resources is difficult and a waste of time… in most cases I don't find what I want'.

Basic search strategies often mean that high-quality subscription content is not found.

Search skills and basic familiarity with scholarly sources are critical if researchers are to find the material they need for their work – and are to be encouraged to explore resources further. The ability of many users – academics and students – to search effectively is often underdeveloped. A tendency to rely on Google is no surprise – it is the same for researchers the world over – but basic search strategies often mean that high-quality subscription content is not found. Library websites and 'portals' are important here, and there are clear ways in which these could be improved to offer researchers good entry points and a source of online advice and assistance.

Training staff and students

There is a clear need to promote resources better, to raise awareness, and to improve users' skills. As one researcher commented, 'mostly I spend too much time wasted with no satisfactory results'. But with so many users, designing and delivering effective training programmes is a not inconsiderable task. Some degree of training is already offered by the four institutions, but only 22% of users surveyed had received any form of e-resource training. Some of this training is reported to be quite successful in encouraging and enabling users to make greater use of online resources, but some is less successful, particularly when time is limited, classes are large, training is not tailored to faculties or subject areas, there is little opportunity to explore new resources, and there are insufficient staff to offer follow-up sessions to build on initial skills. Academics are particularly hard to reach, too busy or reluctant to attend workshops.

Information specialists can make important contributions to research methods training.

New approaches are needed to ensure that training is more effective. Face-to-face sessions are important, but not all users can be reached directly in this way. Developing better online guidance that users can access as and when they need, or offering more easily accessible 'drop-in'

support on a day-to-day basis are likely to be beneficial. For training to be successful, demand needs to be created – amongst students by what their supervisors expect of them – and it needs to link strongly to their actual research needs and interests. Different approaches will probably need to be taken, acknowledging the differing interests and expectations of academics and students, and the specific needs of researchers in different disciplines. At the postgraduate level, information specialists can also make important contributions as key partners in research methods training. Efforts may best be targeted towards those most likely to benefit from it. Some users will be sufficiently adept or with a strong enough drive to do research to train themselves, while others may show little interest in research and thus the training to support this.

Leading libraries, developing people

Better information services and facilities for research can only be developed by library staff who are skilled, confident, and motivated. This means better training and development opportunities for librarians. Increasingly, ICT-based services require new approaches to librarianship, information training and support. The duties and interests of libraries and ICT departments are converging, and close links between the two will be of ever greater importance.

Ensuring libraries are responsive to the changing needs and priorities of their universities and their individual users, whilst also being able to demonstrate clearly how they assist in this, will require library staff skilled at analysing needs and handling greater levels of data. But developing staff is not just about training. It is also about recognising and rewarding expertise, raising their status within the institution, and encouraging them to develop new approaches.

Strengthening relationships and understanding needs

Strengthening access to research information online requires that better relationships are developed across institutions, involving all those with a stake in the process. Libraries provide vital services, but they need to be well connected to senior management and informing central planning processes. Good links with ICT departments and academic faculties and departments are also essential, so that resources and technology are managed together, and so that libraries understand and can effectively respond to their users' needs.

In most cases, formal channels exist for such communication, but this often does not always work well. Informal channels may be of greater value. Good relationships have been built by librarians proactively responding to the needs of individual academics, who in turn work with them to jointly secure the resources and access needed by their departments.

> *Better relationships need to be developed across institutions, involving all those with a stake in the process.*

Conclusion

Increasing African researchers' access to information is critical if research and publishing is to be strengthened on the continent. Availability has been widely and successfully addressed. Ensuring subscription models remain affordable and sustainable remains a challenge, but we need to go beyond the supply of content, to better support researchers to access and use this. Understanding how researchers access and use information and the obstacles they encounter in doing so is proving the greater challenge.

Technology is important, but is not the magic solution. Researchers' awareness, skills, and behaviour are of critical importance. This requires information support to be made a priority in research training. Underpinning all of this are relationships on campus. Better research environments, improved access to information, and better research will only be achieved if academics, librarians and ICT professionals work together. The support of senior institutional leaders will be critical to encourage and enable this.

This paper is based on a longer study published as *Growing knowledge: access to research in east and southern Africa.* To download the full report, visit **www.acu.ac.uk/growing_knowledge**

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