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SMART Research through Open Data –A way forward for African Universities: University of Swaziland as a case study

According to the World Economic Forum, Africa produces only 1.1% of global scientific knowledge. Research output in Africa accounts to less than 0.03% of the world's research data and Sub-Saharan Africa accounts for 0.72% of the global research output. There are many reasons attributed to the slow rate of research output from Africa. Mainly Africa relies largely on International partners to fund its Research and Development. Such research are done at region or national level and the results of such research stay within those realms without any visibility. Most of such research end-up as Grey literature in Institutional Repositories. The data collected in such research are never reused and often forgotten. Thus very few research are available in main-stream scholarly communication and most of the minor research are never visible.

In order for African universities to reverse the poor show of African scholarship as well as to improve scientific scholarship and strengthen the research process, especially to create SMART African universities, the concept of Open Science can be effectively employed. Open Science is a broader term used to denote a wide range of practices which include, Open Data, Open Source, Open methodology, Open Research, Open Access and Open Educational Resources. Open Science represents a massive culture change where a new approach to scientific process is applied based on cooperative work and new ways of disseminating knowledge using digital technologies and collaborative tools. Unlike Open Access, Open Science strives to extend the principle of openness in the entire cycle of research process starting from its methodology. This is a huge paradigm shift in the way the stakeholders of research and education work to create, store, share and deliver not only the outputs of their research also the entire research process. Instead of looking at making only the research output open to others it is essential to open the entire process of research starting from the methodology, data to the result for a collaborative and complemented research environment in Africa. This way, the visibility of the scholarship along with possible collaboration can be guaranteed.

This paper while advocating for Open Science, looks at its role in universities especially in relation to research and development. Keeping the Advice Paper for the League of European Research Universities (www.leru.org) as a model, a roadmap for African SMART research is attempted. Dissemination of information using Open Science, especially through Open Educational Resources, dissemination of grey literature through Open Access Institutional Repositories, providing research data through FAIR DATA principles are some of the important ways in which African universities can contribute towards making SMART research. In this paper the University of Swaziland's initiative to make Open Science a priority by opening its repository and the Open Educational Resources Gateway initiative are discussed. As conclusion, the concept of research integrity in Open Science and the role of Citizen Science towards propelling African research and Development are discussed.

Summary

Sub-Theme

SMART Research: Services and tools

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