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Editorial Feature

Managing Research Data in the Information Society

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The global society is now than before required to apply varied interventions to address such complex challenges as poverty; climate change; environmental degradation; digital divide; development gaps between industrial countries and less industrialized ones; biodiversity; killer diseases such as Ebola, HIV/AIDS and Malaria. Increasingly, high impact multidisciplinary, and trans-disciplinary collaborative research is seen as a panacea to helping address these complex societal challenges and many more. Consequently, progressive governments are creating conducive environments for increased investment in various types of research – academic, contract, sponsored, collaborative, applied, and basic. High impact research including research published in scholarly journals such as AJLAIS, generally generates large quantities of data most of which is not used at all leading to duplication of further research, lost investment, lack of access to research data, poor quality of research output and poor decision making.

Universities globally are being challenged to provide leadership in research innovation, commercialisation and entrepreneurship. The increasing influence of the academic global ranking of universities can be seen in this light. The academic global ranking systems are aimed at stimulating and encouraging universities to innovate and commercialise their research products. The rankings systems consider, among other factors, how institutional statistics including research data is managed (World University Ranking, 2011). The ranking provides indications of the commitment of universities to the dissemination of scientific knowledge. Consequently, universities and scholars in both the public and the private sectors are now expected to review the role and status of national research innovation systems and international trends in the knowledge-based societies. The academic global ranking of universities provides a platform for researchers, policymakers and relevant stakeholders to engage critically with key elements underpinning research systems such as policy trends, infrastructure, human capacity and investment (World University Ranking, 2011). In this regard, African Heads of States Summit in Addis Ababa in 2007 urged all African Union member- states to allocate at least 1% of their GDP to Research and Development (R&D) by 2020 (Mutume, 2007) to stimulate scientific and technological innovation.

Explicit public policy is therefore needed, especially in developing world, to reinforce and ensure that higher education and research receive adequate investment from both private and public sectors for infrastructure development in the form of laboratories, equipment, libraries, and a system of information storage, retrieval, and utilisation (Sawyer, 2006).

The importance of managing research data whether for large projects or for the purpose of publication in scholarly journals has become imperative. Management Consultant David Little underlined the importance of research and its output saying research is the heartbeat of the academy. Elsewhere, a report of the US President's Council of Economic Advisors reveals, that 50% of the growth in the American economy is attributed to investments in research and development (Atkinson, 1997). Without reliable data to show how research drives

economic growth and development, it is difficult to effectively convince governments to invest in R&D. According to Microsoft Technet (2012), the US uses 30 billion documents each year of which 85% are never retrieved; 50% are duplicated; 60% become obsolete; and for US$1 a company spends to create a document, US$10 is used to manage document creation process. Data collected through national longitudinal surveys on such subjects as population, food, crime, health and poverty generate diversity of data formats requiring prudent management for such data to remain accessible in the short, medium and long terms.

The responsibility of managing research data is a role that must be shared by various stakeholders including: researchers who create the data; principal investigators who design research; support staff who manage and administer research; institutional IT services; data archives and centres; libraries; academic and central administrative units; open access services; and national archives that hold public records. In their efforts to manage these data, these stakeholders must ensure compliance with ethical standards —- rights, dignity, health, safety and privacy, welfare of animals and the integrity of the environments; and consistent procedures in the research lifecycle —— collecting, processing, checking, validating and verifying data. In addition, managing research data should ensure self-explanatory nomenclature of data in terms of variable names, codes and abbreviations; use of metadata that explain meaning of data - how they were collected and the methods used to create them; conforming with rights management and anonymisation. The World Summit on Information Society (WSIS, 2005) Action Line 10 (ethical dimension of information society) provides guidelines on what other ethical issues must be considered in the responsible use of information. Researchers must ensure that they have facilities to store data actively used in current research, data recovery and backup services, and metadata management services that reveal what research data exists, why, how it was generated, and how it is to be accessed.

Research in library and information sciences (LIS) remain limited compared to the other social sciences and humanities disciplines. Meho & Spurgin (2005) found that in a list of 2,625 items published between 1982 and 2002 by 68 faculty members of 18 schools of library and information science, only 10 databases provided significant coverage of the LIS literature. However, the management of LIS research data remains poor. Akinwumi (2013) in this regard observed that most library materials are not properly indexed and abstracted because librarians/library staff are not properly trained in the art of indexing and abstracting. This finding should concern LIS professionals and scholars because the essence of information is to get it at the right time to the users. Consequently the importance of indexing and abstracting research output for effective retrieval and dissemination of information must take great consideration in LIS professional and scholarly practice.

Data that is generated through LIS research like any research generated in other disciplines must be managed in ways that conform to the tenets and practices of data management described above. LIS tools that are currently used to manage research data include but are not limited to indexing and abstracting services, print and online journals, digital libraries, digital repositories, etc. For example, Library and Information Science Abstracts, (LISA**)** is an international indexing and abstracting tool that has existed since 1969. It was designed for library professionals and other information specialists. LISA covers the literature in Library and information science (LIS) and abstracts hundreds of periodicals from around the world in diverse languages. LISA covers bibliographic data in the field of information science and library science. It also covers such LIS cognate areas such as publishing, online retrieval, and information technologies. Similarly, Library and Information Science Technology Abstracts (LISTA) was created by librarians and covers conference proceedings, theses and pamphlets. The other research data management services in LIS include the Library Literature & Information Science Full Text which provides PDF page images of all full-text articles since 1970 covering indexed and abstracted journals, of key library and information science periodicals. Furthermore, *EBSCO Discovery Service* (EDS) is a federated data management tool that provides fast, access to the entire library's content. The other LIS research data management tool is Library Literature & Information Science - a bibliographic database that indexes key library and information science periodicals published

in the United States and elsewhere since 1984. The tool covers books, chapters within books, conference proceedings, LIS theses, and pamphlets

Many other tools exist to manage research data in LIS and cognate fields such as: Online bibliographic databases such as Ohio Computer Library Centre (OCLS), South African Bibliographic Network (SABINET) and African Journals Online (AJOL). Others include Library Literature & Information Science Retrospective 1905-1983 (H.W. Wilson) which contains citations of all the innovations, and people instrumental in the making of modern librarianship; ERIC-Index to journal articles from 1969 to the present on educational research and practice; ProQuest Digital Dissertations- Index to doctoral dissertations from 1861 to the present; Directory of Open Access Journals DOAJ- a comprehensive coverage of all open access scientific and scholarly journals that use a quality control system to guarantee the content; and JSTOR which provides access to several collections of back files of scholarly publications covering the social sciences, humanities, and sciences(UCLA Library, 2014)

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