

Dennis Ocholla · Omwoyo Bosire Onyancha ·
Aderonke Olaitan Adesina *Editors*

Information, Knowledge, and Technology for Teaching and Research in Africa

Data and Knowledge Management

Synthesis Lectures on Information Concepts, Retrieval, and Services

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Foreword

It is my great privilege and honor to introduce this insightful book, titled: “Information, Knowledge, and Technology for Teaching and Research in Africa: Data and Knowledge Management” edited by Prof. Dennis N. Ocholla, Prof. Bosire Onyancha, and Dr Aderonke Adesina. The book belongs to the global series: Information Concepts, Retrieval, and Services series edited by the world renowned scholar in the domain -Prof. Gary Marchionini. This is the third book in a series: Information, Knowledge, and Technology for Teaching and Research in Africa, which brings together Prof. Ocholla’s mentees and former doctoral students to share their invaluable research findings. Prof. Ocholla is a great scholar, a prolific researcher, and an adept mentor of many students and scholars. Equally, Prof. Bosire and Dr Aderonke Adesina are scholars of great repute in their specialization.

This edited title is a valuable resource for researchers and scholars, policymakers, and students of information science, as it provides informative and insightful well researched and documented evidence of research findings in the context of Africa. The book is a significant contribution to the discussion on data and knowledge management, examining a wide range of topics. Transformation of the society is dependent on development of data and knowledge systems to facilitate access and retrieval of relevant information to solve societal problems and enhance innovativeness.

The book is divided into six chapters. The first chapter “[Optimising Tacit Knowledge in Organisational Knowledge Management: A Systematic Review of Covid-Era Literature](#),” provides a systematic review of Covid-Era literature in the context of optimizing tacit knowledge for organizational knowledge management. A systematic literature review (SLR) for the period 2020 to 2022 was carried out using the Scopus database. The findings revealed twenty-one constructs that can be factored in to optimize tacit knowledge management. The study observed that organizations begin to give credence to the roles of knowledge managers to coordinate the complexities involved in tacit knowledge management for optimal organizational advantage. The chapter provides dimension on disruptive periods where thinkers spend more time writing as occasioned by the lockdown.

The second chapter “[Applying Modernisation Theory for Information and Knowledge Empowerment of Informal Sector Women Entrepreneurs in South Africa](#),” examines the

application of Modernisation Theory for information and knowledge empowerment of informal sector women entrepreneurs in South Africa. The chapter demonstrates that modernization theory could be applied for economic development and rapid transformation and advancement of businesses of ISWEs in South Africa. The chapter demonstrates that the information and knowledge society is closely tied to modernity and there is a link between this society and the availability of ICTs.

The third chapter “[Research Data Management in Higher Education Institutions: Literature Review](#)” examines the global literature on research data management (RDM), with an emphasis on higher education institutions (HIEs) and their libraries. The review focused on the status of RDM services, as well as the competency requirements of employees responsible for providing RDM services. The review provides insight into RDM implementation in Institutions of higher learning and their libraries. The review underpins research data management as a critical aspect of research and innovation ecosystem in universities.

The fourth chapter “[Library and Information Science \(LIS\) in the Sustainable Development Goals \(SDGs\) Research from 2012–2021: An Informetric Perspective](#)” employed informetric analysis of publications between 2012 and 2021 to assess the contribution of library and information science in supporting SDGs. The data was obtained from SciVal and analyzed using a variety of tools to examine the trend of publication of research outputs that are linked to SDGs. LIS’ percentage share of SDGs’ publication outputs and impact was determined and the research domain in the LIS papers that are linked to SDGs was examined. The findings show that LIS research on the SDGs has continued to increase over time, LIS contributes less than one percent of the SDGs publications (research), and that owing to its multidisciplinary, LIS contributes research and impact to all SDGs.

The fifth chapter “[Gender-based Violence in sub-Saharan Africa: A Subject Analysis](#)” examines knowledge coverage and distribution of subject terms of Gender-Based Violence (GBV) research in sub-Saharan Africa. A content analysis was performed on author-supplied keywords based on 6101 journal articles extracted from Scopus database over a period of twenty-five years (1996 to 2020). It was established that most frequently co-occurring keywords on GBV research were intimate partner violence, South Africa, gender, sexual violence, and women. Distribution of GBV research by subject terms revealed medicine, social science, psychology, and arts and humanities as the major fields contributing the most relevant publications in the GBV research, while records on Technology, Engineering, and Mathematics were few.

Using a phenomenological approach, the sixth chapter “[Predominant Shortcomings Experienced by Examiners of LIS Master’s and Doctoral Theses and Dissertations. An Examiner’s Perspective](#)” analyzed predominant shortcomings experienced by examiners of LIS masters and doctoral theses and dissertations. The chapter discusses the errors that occur at various stages of thesis development occasioned by poor planning, execution, reporting, supervision, and insufficient student preparedness for a master’s or doctoral

level of work in terms of knowledge, skills, and attitude. The chapter recommends ways to alleviate the shortcomings. The chapter is informed by the lived experiences of one examiner and some qualitative content analysis, evidence of similar cases is reflected in related studies, some of which are reported in this chapter. The chapter is beneficial to students and thesis supervisors.

It is worth noting that some themes are crosscutting or multidisciplinary. The chapters provide insight and understanding of the broad area of data and knowledge management. The book will be valuable for university-level teaching and research in Africa and add knowledge to the global research community in data and knowledge management. I particularly appreciate the authors' emphasis on research, providing a deeper understanding of the research area. As noted by the editors, the book aims to offer valuable information to LIS scholars and students. I Strongly recommend this book to university libraries, faculty staff and students in information and knowledge management related schools and departments, researchers, library and information workers among others.

In conclusion, the book titled "Information, Knowledge, and Technology for Teaching and Research in Africa: Data and Knowledge Management" is a thoughtful and stimulating edited book. It offers valuable contributions to the discussion, examining a wide range of topics relating to data and knowledge management. It is a must read for scholars and students in LIS related schools and departments.

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Preface

We argue that knowledge management is at the crossroads of its growth as a discipline, and this influences research and education in the domain. In the process, it is important to review KM concepts and context and capitalize on its multidisciplinary nature that goes beyond information science and its over-dependence on some disciplines to thrive and survive. The book represents postpositivist research that combines both qualitative desk research based on document analysis and quantitative research reflected strongly in two chapters that applied bibliometric analysis. We recognize that knowledge and data management are multidisciplinary. Also, subject domains, such as knowledge management, information management, data management, information and communication technology, and information seeking and retrieval, among others, form budding inter-linkages that cannot be neglected.

During the last decade, several Ph.D. level research at a South African University—where the authors of this book graduated—produced valuable theoretical/conceptual and contextual content in notable LIS areas/domains worth reviewing, revising, and sharing with the library and Information Science, information and knowledge management researchers and students in Africa and globally (e.g., for comparative studies). This book focuses on data and information management, which is one of the six areas of the research. We recognize that some themes are crosscutting or multidisciplinary. The chapters are largely theoretical (conceptual), and literature review based. This book consists of six chapters.

The first chapter entitled “[Optimising Tacit Knowledge in Organisational Knowledge Management: A Systematic Review of Covid-Era Literature](#),” is written by Aderonke Adesina, from Nottingham Trent University, UK. Aderonke argues that tacit knowledge is an asset that boosts innovation and generates a competitive advantage for organizations in all walks of life. While recognizing studies in the domain, this study explored Covid-Era literature to identify additional factors/constructs that organizations need to consider for tacit knowledge optimization. The research aligns with many other tacit knowledge enablers and barriers in previous studies and poses an important overriding research question “Are there any emerging themes/constructs/factors that can impact the maximum utilization of tacit knowledge?” The study advocates that organizations begin to

give credence to the roles of knowledge managers to coordinate the complexities involved in tacit knowledge management for optimal organizational advantage. The second chapter entitled “[Applying Modernisation Theory for Information and Knowledge Empowerment of Informal Sector Women Entrepreneurs in South Africa](#),” is written by Glenrose Velile Jiyane from the University of Zululand. The chapter recognizes the importance of the information and knowledge society in current times and adopts meta-analysis to demonstrate that modernization theory could be applied to economic development and rapid transformation of ISWEs in South Africa. The author argues that modernity and the information and knowledge society present the shift and transitions from the traditional way of doing things through ICTs, which could bring about developing, progressing, and advancing developing communities, particularly ISWEs. This author has further shown how the Modernization Theory could be applied to the plight of ISWEs to assist them in leapfrogging from their situation and enjoying global business platforms. Chapter three, entitled “[Research Data Management in Higher Education Institutions: Literature Review](#),” is written by Mpilo S. Mthembu from the University of Zululand. The author examines global research data management (RDM) literature, emphasizing higher education institutions (HIEs) and their libraries. The status of RDM services, as well as the competency requirements of employees responsible for providing RDM services and researchers, are addressed in the examined literature. Mpilo argues that a survey of such material would greatly contribute to a better understanding of development activities suited for RDM implementation and influence the RDM agendas of HEIs and their libraries in terms of growth and development. The fourth chapter, entitled “[Library and Information Science \(LIS\) in the Sustainable Development Goals \(SDGs\) Research from 2012–2021: An Informetric Perspective](#)” is written by Omwoyo Bosire Onyancha from the University of South Africa. The author recalls that the United Nations (UN) calls for the global community, including universities, to support and contribute to the realization of the sustainable development goals (SDGs) and uses a bibliometrics analysis of the data, obtained from SciVal, to achieve the focus of the study. It is noted that LIS research on the SDGs is increasing though contributes less than one percent of the SDGs publications (research). The Chapter recommends the use of the SDGs as a framework for LIS research to realize the UN’s Agenda 2030. In the fifth chapter entitled “[Gender-based Violence in sub-Saharan Africa: A Subject Analysis](#)” co-authored by Taiwo Aderonke Idowu from Federal University of Agriculture, Nigeria, Dennis Ocholla from the University of Zululand and Omwoyo Bosire Onyancha from the University of South Africa, the authors argue that gender-based violence (GBV) stems from gender inequalities and human rights abuses in the society and urge full attention to its manifestation in Africa. Through bibliometric analysis of GBV research over time, they reveal levels of research collaboration, subjects with the highest number of records, and the most frequently used terms were considered and reported. The finding shows that the co-occurrences of keywords on GBV research included ‘intimate partner violence’, South Africa, gender, sexual violence, and women. The less researched areas included school-related GBV, Gender-budgeting, and LGBTQ+.

The study's limitations and implications are provided in the chapter. The last chapter "[Predominant Shortcomings Experienced by Examiners of LIS Master's and Doctoral Theses and Dissertations. An Examiner's Perspective](#)", written by Dennis Ocholla from the University of Zululand, focuses on the Shortcomings experienced by examiners of LIS master's and doctoral theses and dissertations. Dennis notes that students largely struggle to produce acceptable dissertations because of omissions emanating from the planning/ research proposal, execution, and reporting stages and recommends ways to alleviate the shortcomings informed largely by his lived experiences as an examiner of many theses and dissertations in his career as a university academic.

All chapters have been blind peer reviewed by at least two reviewers of good academic standing from Africa and their valuable recommendations duly incorporated to improve the quality of the chapters. We strongly believe the book will be valuable for university-level teaching and research in Africa, and perhaps elsewhere, where such knowledge would be valuable for comparative studies.

Richards Bay, South Africa
Pretoria, South Africa
Richards Bay, South Africa

Dennis Ocholla
Omwoyo Bosire Onyancha
Aderonke Olaitan Adesina

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About the Editors

Dennis Ocholla Ph.D., graduated with a Ph.D. in Library and Information Science in Kiev and Saint Petersburg/Leningrad in the former USSR in 1988. He is currently a Research Fellow at UNIZULU after retirement as Senior Professor at the university in 2022. He joined the University of Zululand as Professor (FP) and Head of the Department of Library and Information Science (1996–2014) and was appointed Senior Professor at the University in 2006. He started his academic career at Moi University in Kenya, as a lecturer in 1988 and later Senior Lecturer and Head of the Department of Library and Information Studies before moving to the University of Botswana as a Visiting Scholar (1995–1996). He has served the University of Zululand as Dean (1998–1999), Vice Dean (2007–2011), and Deputy Dean of Research and Internationalization (2014–2019), in the Faculty of Arts (now Humanities and Social Sciences). His research and teaching interest where he has published and graduated with many masters and Ph.D.s—include—information seeking, KM and IKS, ICT4D/Human computer interaction-user interfaces, LISE, data science—bibliometric/informetrics, information practices-information seeking, information ethics, scholarly communication, and research methods. He serves/has served in the editorial and peer review boards of many local (RSA) (e.g., SAJLIS) and international journals (e.g., Library Management, Informetrics, LIBRI), conferences, and research organizations/councils. He was the Editor-in-Chief of Inkanyiso: Journal of Humanities and Social Sciences (2009–2022) and before that, Editor-in-Chief of South African Journal of Libraries and Information Science (2002–2008). He has received research awards including NRF [RSA] established researcher rating (until 2028). Some of his research publications can be accessed at <https://scholar.google.com/citations?user=OJHFQG0AAAJ&hl=en>.

Omwoyo Bosire Onyancha Ph.D., is a Research Professor at the Department of Information Science, University of South Africa. He holds a Ph.D. in Library and Information Science and is a C2 National Research Foundation (SA)-rated researcher. His areas of research interest include Informetrics and Scientometrics, Information and Knowledge