

**ICTs
and**

LIBRARIES:

A BASIC TEXT

Edited by

Esharenana E. Adomi

IBADAN UNIVERSITY LIBRARY

ICTs AND LIBRARIES: A BASIC TEXT

Edited by

Esharenana E. Adomi, *Prof.*
Department of Library and Information Science
Delta State University
Abraka, Nigeria

Credence Press Ltd, Effurun, Delta State, Nigeria

© 2022 Esharenana E. Adomi. All rights reserved. No part of this publication may be reproduced, stored in or introduced into a database and retrieval system or transmitted in any form or any means (electronic, mechanical, photocopying, recording or otherwise) without the prior written permission of the copyright owner.

Published by Credence Press Ltd, Effurun, Delta State, Nigeria

ISBN: 978-978-998-344-5

Disclaimer

The views expressed in the chapters of this book are those of the authors and not of the editor nor publisher.

IBADAN UNIVERSITY LIBRARY

Credence Press Ltd, Effurun, Delta State, Nigeria

TABLE OF CONTENTS

Foreword.....	iii
Preface.....	iv
List of contributors.....	ix
Chapter One	
ICT tools and resources used in rendering library services	
Mumeen Omoniyi Otun, Abdulrasheed Ozovehe Isiaka and Bilikis Titilope Suleiman.....	1
Chapter Two	
Computer network technologies and networking in academic libraries: An overview	
Adamu Abbas Lamido Gora <i>CLN</i> , Gombe Ahmed Baba <i>CLN</i> , Abdullahi Zainab Mohammed <i>PhD</i> , <i>CLN</i>	15
Chapter Three	
Cloud computing: Tool for storage in the 21 st century libraries	
Mohammed Saba Adamu, Fatima Ladan Yusuf and Lami Akawu.....	30
Chapter Four	
Library as institutional repository: A vehicle for research in the university	
J. I. Aba, <i>PhD</i> , <i>CLN</i> and T. O. Makinde.....	39
Chapter Five	
The use of modern technology in controlling criminal activities in academic libraries: The case of Kenneth Dike library and Obafemi Awolowo university library	
Adenike D. Omoike.....	59
Chapter Six	
Cloud storage as a digital preservation plan for university libraries in Nigeria	
Blessings Amina Akporhonor, <i>PhD</i> and Osaze Patrick Ijiekhuamhen, <i>CLN</i>	70
Chapter Seven	
Social media resources use in service delivery by university libraries in Nigeria	
Allahde Shehu, Ruth Onajite Owolabi and Maria Ehioghae.....	80
Chapter Eight	
Electronic information resources in academic libraries	
Bello Sami Manzo.....	89
Chapter Nine	
Emerging technologies and sustainable library operations and services	
Blessing Etukudo Ogunjimi, <i>PhD</i> and Felicia Nkatv Undie, <i>PhD</i>	97
Chapter Ten	
Automation of academic libraries in Nigeria	

Boma T. David-West, <i>Ph.D.</i>	115
Chapter Eleven	
Knowledge sharing and technological innovation of librarians in Nigerian tertiary institutions Chituru Nancy Okorie, Philomena Gbemi-Ogunleye and Molukwu Ugochi.....	121
Chapter Twelve	
Contemporary Nigerian librarians: Coping with the challenges of ICT and mobile telephone driven information access Aderinola Ololade Dunmade, Adeyinka Tella and Grace Dolapo Pelemo.....	134
Chapter Thirteen	
Digitization of information resources in academic libraries Isu Michael Egbe and Imelda Barong Edam-Agbor.....	142
Chapter Fourteen	
Knowledge and students' use of university repository: A theoretical review Saheed Abiola Hamzat, <i>PhD</i> , Titilayo Comfort Ilesanmi and Abraham Olalekan Adekunjo, <i>CLN</i>	156
Chapter Fifteen	
Beyond library's beginning: Understanding digital libraries Iguehi Joy Ikenwe and Obiora Kingsley Udem.....	163
Chapter Sixteen	
Digitisation of information resources for libraries, archives and information centres Mohammed M. Kpakiko, <i>CLN</i> , Shaibu A. Sadiku, <i>PhD</i> and Hashimu Suleiman, <i>CLN</i>	179
Chapter Seventeen	
Utilization of mobile applications and technologies for library services in Nigeria: A descriptive study Martins Dodo.....	201
Chapter Eighteen	
Cloud computing for service delivery in Nigerian academic libraries Okeoma Chinelo Ezechukwu.....	219
Chapter Nineteen	
Emerging technologies and information provisions in Nigerian academic libraries Christopher Agbeniaru Omigie, <i>PhD</i> , <i>CLN</i> and Priscilla Chinenye Ezegwu.....	233
Chapter Twenty	
Assessment of the roles of librarians in altmetrics: Evidence from two Nigerian universities Dumebi Otulugbu.....	245

Chapter Twenty One	
Appraising the level of competence, awareness and readiness of students in using (ICT) for learning in a distance learning environment	
Philomina A. Mamudu.....	250
Chapter Twenty Two	
Digital libraries collections as integral tools for enhancing teaching and learning in distance education environment in Nigeria	
Adeyinka Tella, Edeama Onwucheka and Ebenezer Sanya Ibrinke.....	263
Chapter Twenty Three	
Information communication technology (ICT) training for library professionals: The panacea for modern library service delivery	
Aishat Joyce Egbunu.....	280
Chapter Twenty Four	
Research management and interoperability of institutional repositories in academic libraries	
Enite A. Urhefe-Okotie, CLN and Lucky Oji Akpojotor, CLN.....	290
Chapter Twenty Five	
Library automation: Needs and processes	
Aliyu Tsafe Gadanga, PhD and Sodeeq Abdulakeem Sulyman.....	298
Chapter Twenty Six	
The roles of cloud computing in the library	
Humphrey Igwechi Wiche, PhD.....	314
Chapter Twenty Seven	
Librarians ICT skills in Nigeria	
Victor O. Idiedo and Bassil E. Posigha.....	323
Chapter Twenty Eight	
Institutional repository and the conservation question in Nigerian universities	
Gladys Titilayo Olorunyomi and Adeyinka Tella.....	328
Chapter Twenty Nine	
Library portals	
Edwin Iroroeavwo Achugbue, PhD, CLN.....	344
Index.....	356

Chapter Twenty

Assessment of the roles of librarians in altmetrics: Evidence from two Nigerian universities

Dumebi Otulugbu

Summary

This study assessed the roles of librarians in altmetric with evidence from two Nigerian university libraries (University Of Ibadan and Obafemi Awolowo University) to embrace ICT. Survey research design was employed in carrying out the study. Total enumeration technique was used to cover the academic librarians. The study further made use of questionnaire and focus group discussion (FGD) with four key informants. The findings from the thematic analysis showed that large numbers of Nigerian academic librarians are not aware of the altmetrics or still mistaken the tool for citations and journal impact factor. The need to expose academic librarians to periodic training on the concept, importance and advantages which will in turn facilitate the use of the tools to assist the scientists/researchers in creating societal impact with their research outcomes were suggested.

Keywords: Altmetrics, librarians, researcher, training, societal impact

Introduction

In the time past, traditional metrics of journal impact factor (JIF) and citation counts were used as the yardstick for evaluating intellectual publication influence. The traditional metrics (citation counts and journal impact factor) were helpful in assisting researchers to reflect societal attention within the academia. However, with the growing use of Information and Communication Technology (ICT) particularly in the developing nations of the world such as Nigeria, attention was shifted from traditional metrics to the use of altmetrics. Altmetrics could be regarded as the tools used for monitoring a scholar's research impact and relevance other than the use of traditional metrics. The tool facilitates a direct communication with heavy reliance on social web and other interactive channels (Galloway, Pease & Rauh, 2013). According to Priem, Groth and Taraborelli (2012) altmetrics can be viewed as a tool used to measure scholarly impact based on online tools and its environments.

The authors noted that the concept 'altmetrics' emerged at a moment when authors and editors realised that traditional metrics are not sufficient to ascertain the influence of their research outputs; rather, the use of altmetrics to change the conception of scientific impact. In the time past, traditional metrics was being used by the scientific community to measure their research impact, in recent years however, the traditional metrics have been jettisoned owing to their inability to adapt to the new academic demand. These days, altmetrics are being employed to measure impact of common research products such as technical reports, work

documents, datasets, software, conference communications and multimedia products on the intended community of users (Konkiel, 2013). Therefore, to conceptualise the importance of altmetrics in academic environment, librarians seem to have a crucial role to play.

Association of College and Research Libraries [ACRL] (2014) noted that librarians of universities and specialised libraries are tied to select, organise, train and inform researchers about their research impact. The group further states that academic librarians have been assessed to possess the required pre-requisite needed to use altmetrics appropriately in fostering research impact and value in their institutions and academic community. For this reason, librarians are expected to be trained and informed about altmetrics as one of the emerging services of the modern-day libraries (Lapinski, Piwowar & Priem, 2013). Moreover, several authors have argued that the use of the tool could transform librarians into a specialist in the scientific communication process (Priem, Piwowar & Hemminger, 2012; Galligan, 2013). The roles of librarians are therefore, highlighted to include identifying trends in research, obtain funds for research projects, monitor the impact of their institution's scientific activity to justify return on investment of public funds in higher education.

Librarians could also be put in a vantage position to decide on altmetrics, facilitate sharing of all kinds of information, use social reference and media such as Mendeley, Twitter, Wikipedia, as well as enriching institution collections and repositories. More importantly, librarians could serve as a broker of information

resources between the users and the library (Sutton, 2014). As this information dissemination approach becomes popular, the questions arising from this development are that what roles are the academic librarians play in facilitating the use of altmetrics? What is the awareness level of librarians in the use of altmetrics in discharge of their duties? It is on this note that this study set out to assess the level of awareness and roles of librarians in altmetrics with reference to Kenneth Dike Library University of Ibadan and Hezekial Oluwasanmi Library, Obafemi Awolowo University, Ile-Ife Nigeria. The choice of these academic libraries is necessitated by the fact that these libraries are the foremost academic libraries in Nigeria to adopt ICT for information resources creation, access and use.

Objectives of the study

The study was specifically set out to:

- i. Ascertain level of librarians' awareness of altmetrics in Nigerian academic libraries; and
- ii. Determine the roles of librarians in altmetrics in Nigerian academic libraries.

Literature review

Altmetrics are measures of citations/mentions in specific social web services owing to their rapid appearance than the usual citations. The altmetrics measure article visibility and not journal or writer visibility. With the use of altmetrics, researchers can follow/know who are talking about their research. Therefore, the concept 'altmetrics' was credited for its fastness, openness, impact beyond the academy, non-peer reviewed sources, crowd sourcing peer review, article itself, datasets code, self-publishing and promotion of use of blogging, comments and annotations. Brigham (2014) averred that the use of altmetrics would assist researchers to have an idea of the social impact of their research as well as to ascertain where their publications are being discussed, quoted, viewed, saved and marked as favourites. Moreover, the wide acceptance and use of altmetrics depend largely on the level of awareness among the librarians who serve as custodian of intellectual outputs.

In the same vein, awareness could be described as a state of known of the existence of something or the capability to directly recognize, perceive, feel or be cognisant of events (Wyart & Tallon-Baudry, 2009). An individual may possess high, low or moderate level of awareness about something, object or phenomenon. In context of this study, the concept is employed to explain the state of knowledge of librarians of the existence and usefulness of altmetrics in facilitating wider visibility for scientific outputs. In establishing the importance of altmetrics in scientific outputs, Maggio, Leroux, Mayor and Artino (2018) examined the relationship between the use of altmetrics and traditional measures for disseminating health information in Bethesda, Maryland, USA. The authors employed descriptive analysis to query the use of Web of Science and Altmetric Explorer for articles published with JIF between years 2013 and 2015 respectively. Their results showed that the use of altmetrics facilitate increase in articles access while articles with traditional metrics continue to experience decrease. The need for the use of altmetrics was suggested to serve as a means of facilitating improved citations and articles access.

Collister, Kirschner, Bradbury, Deliyannides and Kear (2017) examined the use of altmetrics in the 38 journals published as part of the publishing program of University of Pittsburgh, USA, University Library System. Altmetrics from each journal article were displayed on abstract pages with the aid of a widget Plum Analytics. The authors concluded that librarians who are part of a library publishing operation play a valuable role in training and supporting staff and potential users of journals with altmetrics applications. Malone and Burke (2016) assessed Oklahoma academic librarians' knowledge of bibliometrics and altmetrics. The authors administered an online survey among the academic librarians in Oklahoma during summer of the year 2015.

The results of the descriptive analysis conducted indicated that librarians were less familiar with altmetrics compared to bibliometrics, and concluded that altmetrics was effective and users were interested in receiving more training on the use of the tool. Thelwall,

Haustein, Lariviera and Sugimoto (2013) assessed the influence of Twitter and ten other social web services on altmetrics work. Eleven altmetrics with Web of Science citations mentioned in Pubmed were compared to articles with altmetrics. Statistical association were reported to be higher between journals with altmetrics compared to articles with traditional citations.

Methods

Survey research design was employed to carry out the study. Both quantitative and qualitative methods were used. The quantitative method was employed to address the socio-demographic aspect of the study while the qualitative method was used due to the need for an in depth

understanding of the level of awareness of academic librarians of the concept as well as their roles in the use of the tools. The population of the study involved the 71 professional librarians in both the Kenneth Dike (University of Ibadan) and Hezekiel Oluwasanmi (Obafemi Awolowo University) Libraries respectively. The researcher administered copies of questionnaire on the target respondents and the data gathered for the study were analysed with the use of, frequency counts, percentages and thematic method.

Results

The results of the analysis were as presented in this section.

Table 1: Socio-demographic characteristics of the respondents

Demographic profiles	Classification	Frequency	Percentages
Age range	36-45	33	46.5
	46-55	11	15.5
	56-65	17	23.9
	65 and above	10	14.1
Gender	Male	39	54.9
	Female	32	45.1
Academic qualifications	Ph.D.	27	38.0
	MLIS/M.Info	44	61.9
Job status	Deputy University Librarian	4	5.6
	Principal Librarian	19	26.8
	Senior Librarian	33	46.5
	Librarian I	8	11.3
	Librarian II	7	9.9

The results of the socio-demographic characteristics of the respondents as presented in Table 1 indicate that large number of respondents are found in age bracket 36-45 (N=33) constituting 46.5%. The analysis also revealed that 39 representing 54.9% of the respondents are male. This implies that there are more male for the study. The analysis further indicated that only 27(38.0%) of the respondents had doctorate degree and 33 constituting 46.5% of the respondents are in Senior Librarian cadre. The implications of the findings are that large numbers of respondents for the study are in the middle level of their careers as librarians.

Level of awareness of altmetrics among academic librarians

Generally, all the respondents had little knowledge of altmetrics. The respondents majorly expressed their knowledge about the tools as shown from the following responses:

‘Altmetrics is like bibliometrics and webometrics’ (FGD participants, Senior Librarian, Librarian I and Librarian II). It is used to trace the trend of publication and number of times to which of times to which publication being cited (FGD participants, Senior Librarian, Librarian I and Librarian II).

Respondents also expressed their views about how the tools can be put to optimal use. It was observed that most of the respondents reported that training on the workability of the tool will facilitate its usage.

'It can be put into optimal use if librarians are exposed to firsthand training in order to have adequate knowledge of the services and tools that these metrics offer and try them out' (FGD participants, Senior Librarian, Librarian I and Librarian II).

However, few respondents had made use of these tools for their developments,

'I have subscribed to the use of altmetrics in order to build my own profiles and CVs as researchers' (FGD participants, Senior Librarian, Librarian I and Librarian II).

'I have involved in the training of users of any kind in scientific competences and information literacy competence including training on the use of bibliographic management such as Mendeley, Social Makers, Open Access and Social Networks' (FGD participants, Senior Librarian, Librarian I and Librarian II).

The respondents were also asked to suggest the modalities to which they believe that the altmetrics can be put to use for generality of all.

'Altmetrics can be incorporated into the selection of information resources and collection development. More importantly, it can be used in the user's study procedures to detect their needs' (FGD participants, Senior Librarian, Librarian I and Librarian II).

The respondents were asked the types of bibliometrics and altmetrics subscribed to by their libraries. Large numbers of the respondents indicated that

'As at now our libraries subscribed to Web of Science,

Scopus, Google Scholar, Publish or Perish, Essential Science Indicators, SciVal, InCites, Almetric.com, PlumX and ImpactStory' (FGD participants, Senior Librarian, Librarian I and Librarian II).

Roles of academic librarians in altmetrics

What roles do you think academic librarians can play in the use of altmetrics?

'Having trained librarians, they can conveniently manage, organise, train and inform researchers about their research impact, citation and impacts' (FGD participants, Senior Librarian, Librarian I and Librarian II).

The respondents were further queried to know their frequency of use of Social Networks in assisting researcher for work visibility. They stated that ...

'Social media such as Twitter, Facebook, Instagram, WhatsApp are constantly used to help researchers in creating wider visibility of their research outcomes'. (FGD participants, Senior Librarian, Librarian I and Librarian II).

Conclusion

This study has demonstrated that academic librarians from the selected universities have low level of awareness about altmetrics. Only few of them understand the concept, the importance and their roles in the use of altmetrics. Findings from this study are therefore crucial to university library management on the need to scale-up their efforts at exposing their personnel to periodic training on emerging technologies as a way keep them up-to-date. The need to maintain a synergy between academic librarians and researchers was also suggested. A major limitation of this study is that it was carried out in the two foremost academic libraries that embraced ICT for information services. Information professionals can consider focusing on carrying out similar studies in private

universities in the country. These studies would provide a holistic picture of the importance of altmetrics to both the librarians and researchers in ascertaining the impact of their research on societies/communities.

From the findings, a majority of the respondents had little or even no knowledge about altmetrics, this is why the following recommendations are proposed for the smooth running of libraries especially libraries found in universities. To begin with, there is the need for workshops and seminars championed at equipping librarians with this knowledge, more so, since it aids librarians general development it important that altmetrics be added to the selection of information resources and finally, it should be used in the user' study procedures as it can help in detecting their needs.

References

- Association of College & Research Libraries (2014). Information literacy competency standards for higher education. American Library Association, Association of College and Research Libraries.
- Brigham, T. J. (2014). An introduction to altmetrics, *Medical Reference Services Quarterly*, 33(4), 438–47. Available at: doi:10.1080/02763869.2014.957093.
- Collister, L.B., Kirschner, J., Bradbury, M., Deliyannides, T.S., Kear, T. R., (2017). Altmetrics and library publishing, IFLA WLIC WROCLAW, 1-7. Available at <http://creativecommons.org/licenses/by/4.0>
- Galligan, D.J. (2013). The sovereignty deficit of media constitutions, *Oxford Journal of Legal Studies* 33(4), 703-732.
- Galloway, L.M., Pease, J. L., & Rauh, A. E. (2013). Introduction to altmetrics for science, technology, engineering and mathematics (STEM) librarians, *Science and Technology Libraries*, 32 (4), 333-345.
- Konkiel, D.S.S. (2013). New opportunities for repositories in the age of altmetrics, *Bulletin of the Society for Information Science and Technology*, 39(4).
- Lapinski, S., Piwowar, H., & Priem, J. (2013). Riding the crest of the altmetrics wave how librarians can help prepare faculty for the next generation of research impact metrics. *College & Research Libraries News*, 74(6), 292–300
- Maggio, L.A., Leroux, T.C., Meyer, H.S. *et al.* #MedEd: exploring the relationship between altmetrics and traditional measures of dissemination in health professions education. *Perspect Med Educ* 7, 239–247 (2018). <https://doi.org/10.1007/s40037-018-0438-5>.
- Malone, T. & Burke, S. (2016). Academic Librarians' Knowledge of Bibliometrics and Altmetrics, *Evidence Based Library and Information Practice*, 11(3), 36-49.
- Priem, J., Groth, P. & Taroberrelli, D. (2012). The altmetrics collection, *PLoS ONE*, 7(11), e49753.
- Priem, J., Pinowar, H.A., & Hemminger, B.M. (2012). Altmetrics in the wild: Using social media to explore scholarly impact, Retrieved 10th June, 2018 from: <http://altmetrics.org>
- Sutton, S.W. (2014). Altmetrics: What Good are they to Academic Libraries? Kansas Library Association College and University, *Library Section Proceedings*, 4(2), 1-9.
- Thelwall, M., Haustein, S. Larivieri, V. & Sugimoto, C.R. (2013). Do altmetrics work? Twitter and ten other social web science, *PLoS ONE*, 8(5), e64841.
- Wyart, V. & Tallon-Baudary, C. (2009). How ongoing fluctuations in human visual context predict perceptual awareness: baseline shift versus decision bias, *Journal of Neuroscience*, 29(27), 8715-8725.