Library and Media Roles in Information Hygiene and Managing Information

Collence Takaingenhamo Chisita, Alexander Madanha Rusero,
Ngoako Solomon Marutha, Josiline Chigwada, and Oluwole Olumide Durodolu

IGI Global
PUBLISHER of TIMELY KNOWLEDGE

Library and Media Roles in Information Hygiene and Managing Information

Collence Takaingenhamo Chisita
Durban University of Technology, South Africa & University of South Africa, South Africa

Alexander Madanha Rusero
University of Johannesburg, South Africa

Ngoako Solomon Marutha
University of South Africa, South Africa

Josiline Phiri Chigwada
Chinhoyi University of Technology, Zimbabwe

Oluwole Olumide Durodolu
Department of Information Science, University of South Africa, South Africa

IGI Global
PUBLISHER of TIMELY KNOWLEDGE

A volume in the Advances in Information Quality and Management (AIQM) Book Series

Advances in Information Quality and Management (AIQM) Book Series

ISSN:2331-7701
EISSN:2331-771X

MISSION

Acquiring and managing quality information is essential to an organization's success and profitability. Innovation in information technology provides managers, researchers, and practitioners with the tools and techniques needed to create and adapt new policies, strategies, and solutions for information management.

The **Advances in Information Quality and Management (AIQM) Book Series** provides emerging research principals in knowledge society for the advancement of future technological development. This series aims to increase available research publications and emphasize the global response within the discipline and allow for audiences to benefit from the comprehensive collection of this knowledge.

COVERAGE

- Decision Support and Group Decision Support Systems
- Business Process Management and Modeling
- Mobile Commerce
- Knowledge Management
- E-Collaboration
- IT Management in Public Organizations
- Web Services and Technologies
- Human and Societal Issue
- IT Innovation and Diffusion
- Electronic Commerce Technologies

IGI Global is currently accepting manuscripts for publication within this series. To submit a proposal for a volume in this series, please contact our Acquisition Editors at Acquisitions@igi-global.com or visit: http://www.igi-global.com/publish/.

Titles in this Series

Using Information Technology Advancements to Adapt to Global Pandemics

Efosa C. Idemudia (Arkansas Tech University, USA) Tiko Iyamu (Cape Peninsula University of Technology, Cape Town, South Africa) Patrick Ndayizigamiye (University of Johannesburg, South Africa) and Irja Naambo Shaanika (Namibia University of Science and Technology, Naibia)

Engineering Science Reference ● © 2022 ● 300pp ● H/C (ISBN: 9781799894186) ● US $270.00

Mass Communications and the Influence of Information During Times of Crises

Mohammed Nasser Al-Suqri (Sultan Qaboos University, Oman) Jamal Mattar Alsalmi (University of Nizwa, Oman) and Obaid Said Al-Shaqsi (Media Training Center, Oman)

Information Science Reference ● © 2022 ● 307pp ● H/C (ISBN: 9781799875031) ● US $215.00

Social Justice Research Methods for Doctoral Research

Robin Throne (University of the Cumberlands, USA)

Information Science Reference ● © 2022 ● 397pp ● H/C (ISBN: 9781799884798) ● US $215.00

Encyclopedia of Information Science and Technology, Fifth Edition

Mehdi Khosrow-Pour D.B.A. (Information Resources Management Association, USA)

Engineering Science Reference ● © 2021 ● 1966pp ● H/C (ISBN: 9781799834793) ● US $2,145.00

Handbook of Research on Managing Information Systems in Developing Economies

Richard Boateng (University of Ghana, Ghana)

Business Science Reference ● © 2020 ● 695pp ● H/C (ISBN: 9781799826101) ● US $295.00

Table of Contents

Foreword

The outbreak of the COVID-19 pandemic and infodemic has resulted in the post-truth era where information disorder tends to cloud the infosphere resulting in an ambiance of uncertainty compounded by the Coroinfodeluge. This precarious scenario has necessitated and heightened the need for hygienic information practices to battle the COVID-19 pandemic and infodemic by weaponizing citizens with the gamut of twenty-first-century literacies. While personal hygiene has been heralded as a remedy against the COVID-19 pandemic, information hygiene should be considered a fortification against the toxicity of the current raging infodemic. The rising avalanche of the COVID-19 pandemic calls for governments, educational institutions, health practitioners, libraries, media, and other stakeholders to rethink and reset strategies for ensuring adequate information hygienic practices within the infosphere.

The constant calls for sanitizing the digital information production and consumption value chain has become a global war cry as the fight against the COVID-19 pandemic and infodemic has reached a high level of petulant fermentation which calls for urgent action at a worldwide level. The concerted multi-pronged approach to fight the COVID-19 pandemic and infodemic provides information practitioners drawn from media, libraries, archives, and related institutions with an opportunity to prove their worthiness in times of a disaster of apocalyptic proportions. The title of the book *Library and Media Roles in Information Hygiene and Managing Information* draws intellectual stimulus from the World Health Organisation (WHO) Director-General Dr. Tedros Adhanom Ghebreyesus's address at the Munich Security Conference on the 15th of February, 2020, when he stated that "we're not just fighting an epidemic; we're fighting an infodemic." The editors have done an impetus work together to produce this informative and intriguing intellectual banquet that will be worthy of tasting, masticating, and processing and digesting such a scholarly output for the future generation.

It provides insightful and thought-provoking content on the phenomenal COVID-19 pandemic and infodemic and how it can be comprehended, apprehended, and managed amidst the wake of the twenty-first-century information disarray. It provides a corpus of knowledge drawn from media, libraries, and information science experts. The book complements other research areas that are being conducted on the COVID -19 pandemic and infodemic. The book will be invaluable to the Media and Information management fraternity and benefit its target audience.

Shri Ram
Sikkim University, India
23rd June 2022

Preface

The outbreak of the COVID-19 pandemic and infodemic has resulted in the post -truth era where information disorder tends to cloud the infosphere resulting in an ambience of uncertainty. This precarious scenario has necessitated and heightened the need for information hygienic practices to battle the COVID -19 pandemic and infodemic by weaponizing citizens with the gamut of twenty-first century literacies, for example, metaliteracies. While personal hygiene has been heralded as remedy against the COVID -19 pandemic, similarly, information hygiene should be considered as a fortification against the toxicity of the current raging infodemic. The rising avalanche of the COVID-19 pandemic calls for governments, educational institutions, health practionners libraries, media and other stakeholders to rethink strategies for ensuring effective information hygienic practices within the infosphere.

The constant calls for sanitizing the digital information production and consumption value chain has become a global war cry as the fight against the COVID-19 pandemic and infodemic has reached a high level of petulant fermentation which calls for urgent action at a global level. The concerted multi-pronged approach to fight the COVID-19 pandemic and infodemic provides information practionners drawn from media, libraries, archives and related institutions an opportunity to prove their worthiness in times of a disaster of apocalyptic proportions. The title of the book *Library and Media Roles in Information Hygiene and Managing Information* draws intellectual stimulus from the World Health Organisation (WHO) Director-General Dr Tedros Adhanom Ghebreyesus's address at the Munich Security Conference on the 15th of February, 2020. The aforementioned statement provided the authors with an impetus to work together and produce this informative intellectual banquet that will be worthy tasting, masticating and processing. The conditions on which the motifs for the book are anchored begun as a social discourse to come up with a collaborative work. It was conceived as a source of intellectual engagement and a desire to jog the vibrant faculties of the creative corridors of the authors in the wake of the COVID-19 pandemic and infodemic.

The target audience of this book includes LIS and media professional associations, independent information professionals information practionners and educators, researchers, policy makers, media practionners, archivists, health information managers, students in I -schools , scholars and researchers.

The book explores the concept of information hygiene from a myriad of angles including but not limited to digital archiving, records management, libraries and information science, production and publishing, media, politics of the COVID-19 pandemic and vaccinations, twenty-first century literacies and information management among others. The articles in the book interweave a scintillating and engaging intellectual tapestry on the COVID-19 pandemic and infodemic and its impact on the global information landscape and proffer praxis- oriented strategies to enhance information management in times of a universal crisis.

Chapter 1 sought to evaluating the socio-economic impact of digital information manipulation and weaponization of information. The chapter argues that the information landscape has become a complex and dangerous battleground with extensive global impact. Fake and misinformation is now jeopardizing public trust and constituting a threat to knowledge acquisition. Access to accurate information on social media is challenging and, in most cases, intentional to deceive, hence, they are tagged fake news, this deceptive information is capable of causing grave danger to the society. The chapter unpacks Information pollution as a risk to credible knowledge and hence the need to practice good information hygiene can mitigate misinformation, thus, sanitizing the procedure around information manners or etiquette , and helping in preventing deceptive and false information.

Chapter 2 argues that the world over, the COVID-19 pandemic and infodemic has become a serious issue for concern for governments, citizens, health experts, researchers, pharmaceutical companies, information managers and analysts and international organisations among others. The epidemic of fake or unhygienic information has spiraled and strategies to counter it are now on the agenda of governments, information experts and all those who are in the frontline of the war against the COVID-19 pandemic and infodemic. Librarians as information experts are raising their voices as they chart a new trajectory in the fight against the COVID-19 pandemic. This qualitative research examines how librarians in Zimbabwe are contributing to the fight against the COVID -19 misinformation through promoting praxis-oriented information hygienic practices. The study brings into limelight how the COVID-19 pandemic and infodemic has become a borderline for conquest by librarians.

Chapter 3 contends that globally, the COVID-19 pandemic and infodemic has become a serious issue for concern for governments, citizens, health experts, researchers, pharmaceutical companies, information managers and analysts and international organisations among others. The epidemic of fake or unhygienic information has spiraled and strategies to counter it are now on the agenda of governments, information experts and all those who are in the frontline of the war against the COVID-19 pandemic and infodemic. Librarians as information experts are raising their voices as they chart a new trajectory in the fight against the COVID-19 pandemic. This qualitative research examines how librarians can contribute to the fight against the COVID -19 misinformation through promoting praxis-oriented information hygienic practices. The study brings into limelight how the COVID-19 pandemic and infodemic has become a borderline for conquest by librarians.

Chapter 4 contends that the advent of COVID-19 triggered a rethink on the inevitable critical role of the media in disseminating information. COVID-19 made it prevalent in re-sensitising the world that the media still occupies the attic on the menu of health information needs. The media remains the focal point in being the viable conduit of health communication throughout the world. Despite the media playing an important role in health promotion and remaining the most important single source of health communication information, COVID-19 has also made the media susceptible to the proliferation of fake news. The media's vulnerability to fake news makes it prevalent to implement practical measures to mitigate and curb such.

Chapter 5 explores how the Coronavirus 2019 (COVID-19) pandemic has drastically changed academic libraries' regular operations, leading libraries to adapt to a new normal of providing library and information services to remote clients. The chapter argues that, since fulfilling students' information needs is a primary function for academic libraries, the library management has been forced to devise means to figure out how the library and information services should be provided amidst the COVID-19 pandemic. The work interrogates the challenge of the world's health security that is approaching criticality; it examines information disorder, its related challenges, and outlined ways to address the infodemic. Furthermore, this research critically investigated the casualties prompted by misinformation that is being peddled through social networking sites (SNS's) on the COVID-19 pandemic. The chapter established that that most people turn to social media, which is bedeviled with lots of false information on COVID 19 for news that may not conform with the guidelines of the World Health Organization, (WHO).

Chapter 6 investigates a framework that archival institutions could follow in warranting cleanliness in the information housed in a repository for their end users. The chapter is anchored on the notion that Archival materials are used by many researchers for different purposes and some of these people write history books, some write manuscripts for reality movies, novels and many other kinds of publications. The study used the literature review to investigate a framework that archival institutions may follow in warranting cleanliness in the information they inherit or kept. The study highlights the need for a framework for archival institutions to address the authenticity of their records before they are adopted in custodies for permanent preservation. The study recommend that archival institutions come up with archival diplomatic strategies to authenticate the records before keeping for secondary users in the general public.

Chapter 7 argues that while the world was riddled with the advent of novel coronavirus-2019 (COVID-19) towards the end of 2019, in Africa in general and Zimbabwe in particular, citizens were confronted with a dual tragedy of infodemic in form of policy inconsistency as well as misinformation. In the case of Zimbabwe, since the outbreak of the Covid-19 pandemic, the situation has been characterised by with reckless pronouncements by government officials at the highest level of policy making as well as deliberate misinformation and falsification of information pertaining COVID-19. In those circumstances, when (mis)information is peddled from the top, it becomes an infodemic far compelling than the pandemic itself. The chapter unpacks the dual tragedy of infodemic in a pandemic through exploring the ramifications of its impact on Zimbabwe. The chapter conclusively argues that infodemic is more damaging than grappling with a pandemic.

Chapter,8 highlights how the COVID-19 pandemic and infodemic has dealt a serious blow to the progress and stability of humanity in its quest to realise a sustainable future. It is premised on the argument that the position of libraries and other key stakeholders in the development equation need a fundamental rethink in order to build capacity to deal with the COVID -19 pandemic and its mutations. The chapter further argues that challenges being encountered by developing countries in accessing COVID-19 vaccines serve as a wakeup call for all institutions to rethink, redefine and restrategise on how they can work in unison to provide solutions to liberate humanity from the effects of vaccine nationalism. The chapter recommends that the positions of all key stakeholders should resonate with the aspirations of the progressive world to ensure cooperation and camaraderie in ensuring egalitarian access to the COVID-19 vaccinations. It seeks to unpack the phenomenon of the

COVID-19 vaccine apartheid and raise awareness on the role of access to credible information in the wake of the pandemic and the vaccination roll out programmes.

Chapter 9 focusses on the impact of the COVID-19 pandemic on industries including the book value chain. It documents the opportunities and challenges presented by the COVID-19 pandemic in the book industry. The chapter cites writers, publishers, booksellers, librarians, and readers as victims of the COVID-19 pandemic. A structured literature review was done and interviews were conducted with 5 librarians, 5 readers, 5 publishers, 5 booksellers and 5 writers chosen using purposive sampling to establish how they have been dealing with challenges and opportunities that were offered by the COVID-19 pandemic in Zimbabwe. Personal experiences were also used as a writer and librarian to point out the impact of the COVID-19 pandemic. The chapter recommends the adoption of the e-publishing model to ensure the survival of all the stakeholders of the publishing industry in the new normal.

Chapter, 10 focusses on how the outbreak of the COVID-19 pandemic and infodemic has seen a proliferation of myths, fake news, tirades and diatribes that complicating and undermine the global efforts to counter the COVID -19 pandemic and infodemic. This chapter seeks to reconnoiter how the COVID-19 pandemic and infodemic can be confronted using a multi-pronged approach that includes key stakeholders including Information Practionners and educators. The chapter is anchored on a qualitative research design based on literature review to answer the key research questions. The chapter seeks to provoke discourse, generate a corpus knowledge and stimulate further research on issues that are overlooked in other studies on the COVID -19 pandemic within the information science matrix.

Chapter 11 is premised on the motif that the COVID-19 pandemic drastically altered the operations of libraries in providing services and products to patrons. In this pandemic period, the role of library and information professionals was changed from conserving and preserving books to facilitators of knowledge in the digital environment. A study was done to examine the changing roles of librarians in the new normal. A structured literature review was done and personal experiences were also used in the study. It was noted that libraries have shifted to online services where emphasise is put on the acquisition of electronic resources and the utilisation of open education resources to support teaching and learning. It is recommended that librarians should continuously develop themselves to meet the needs of these changing roles and to remain relevant in the new normal.

Chapter 12 contends that the COVID-19 pandemic led to the spread of fake news, false information popularly known as misinformation which have created fear and panic among the people. This had been coupled by a lot of conspiracy theories that were promulgated by people in terms of how the disease is acquired, how it spreads and how it is cured. The chapter documents the role of academic librarians in dealing with fake news and misinformation in institutions of higher learning. A multiple case study of three institutions was done to study what have been done to deal with fake news in this pandemic period. Document analysis and participant observation were used to collect data which was analyzed using content analysis. It was noted that institutions of higher learning had been instrumental in offering information and digital literacy skills training to impart knowledge and skills on how to evaluate information sources. It is recommended that librarians should continuously upskill themselves to be able to gain the knowledge and skills that are needed.

Overal, the exuberant and effulgent authors have done a splendid job by investing their time and positive energy in molding and weaving this treatise for the benefit of humanity irrespective of one's status, or nationality. The COVID-19 pandemic has wreaked havoc on a global scale and caused untold suffering to all and sundry and as authors we pay our respects to all who have succumbed to this monstrous disease and it is our hope that our researchers will find the right solutions to the infection and allow humanity to move on forward and enjoy their God given right to enjoy their time on planet earth. The pandemic and consequent Coroinfodeluge have no place when the media and librarians and related professional organisation work in unison to ensure that water-tight information hygienic practices continue to guide those entrusted with managing information in a dynamic, complex and challenging dispensation.

Collence Takaingenhamo Chisita
Durban University of Technology, South Africa & University of South Africa, South Africa

Alexander Madanha Rusero
University of Johannesburg, South Africa

Ngoako Solomon Marutha
University of South Africa, South Africa

Preface

Josiline Phiri Chigwada
Chinhoyi University of Technology, Zimbabwe

Oluwole Olumide Durodolu
Department of Information Science, University of South Africa, South Africa

Acknowledgment

Chapter 1

Evaluating the Socio-Economic Impact of Digital Information Manipulation and Weaponization of Information

ABSTRACT

The information landscape has become a battleground which has become sophisticated with extensive global impact. Fake news and misinformation is now jeopardizing public trust and constituting a threat to knowledge acquisition. Access to accurate information on social media is challenging. In most cases it is intentionally designed to deceive; hence, it is tagged as fake news. This deceptive information is capable of causing grave danger to the society. The authors affirmed that the use of the internet has improved the quality of education and access to knowledge remarkably; opened the floodgate to an abundance of information, knowledge, and educational resources; and increased prospects and opportunities for learning beyond the traditional classroom environment. Information pollution is a risk to knowledge. Consequently, practising good information hygiene can mitigate misinformation, thus sanitizing the procedure around information manners and helping in preventing deceptive and false information.

INTRODUCTION

The modern technology has created a new form of reality where information can be manipulated without detection, images modify and event altered. Today, propagandist can generate any comprehendible images of motion or motionless, accompanying with compatible supplementary audio to match. Also, it is gradually becoming an uphill task to distinguish manipulated information content, allied to that, the Internet, social media, television and international media have created a platform for instantaneous dissemination of the altered images around the world, all in an attempt to shortchange audience eager for genuine information. Propaganda and information manipulation has also become weapon deployed during physical conflict or ideological differences, in war time, it has become a potent armament to deflate enemy morale, breakdown the will to fight, disorganized the enemy by declaring victories where none existed and forcing the opponent to surrender. As identified by the American Historical Association (2022), modern warfare is the combination of military attack, economic sanction, political pressure, and propaganda which must be mounted simultaneously against the enemy to triumph in battle and enable enduring victory. The reason for using propaganda as a weapon of contemporary warfare is because it is crucial in stimulating spirit of patriotism, encourage nationalism, enhance the ability to take losses fearlessly, to make sacrifices courageously, to bond generously, and to collaborate in all possible ways.

The growing reliance on social media for reporting, together with increasingly escalating media inaccuracies has threatened the frontiers of knowledge and trustworthy information. This predicament has resulted in disorderliness in the information ambiance because of the inability to standardize activities on social media, allied to the problem of interfering with the fundamental right of free speech, this circumstance have led to the new concept in the era of health emergency of Coronavirus known as infodemic, which is an epidemic that was magnified by the inability to access accurate information concerning COVID-19 pandemic (Durodolu & Ibenne, 2020).

With the improvement of the present social technology, the world has witnessed a phenomenal use of social media, which has led to larger-scale pollution of information on a broad scale, which has brought a significant watering down of the quality of information. This is worrisome with the advent of a global health emergency like Coronavirus, which called for accurate information to manage. While information disorder is not an entirely

2

new predicament, the complication and scale of information pollution in a digitally connected world bring to the limelight an unprecedented challenge (Wardle & Derakhshan, 2018). This research attempts to argue an urgent need to pursue practical solutions to bring about information hygiene to stem the tide of information pollution. This effort should be driven by an expert in information use and dissemination, like librarians, media experts, and information literate personnel.

It has been a significant concern that erroneous information of all sorts may adulterate public knowledge and lead to an epistemic challenge that can undermine citizens' ability to access accurate information in dealing with the dreaded coronavirus pandemic. Especially in this post-truth era where facts based on shreds of evidence are less influential in determining public opinion and views than appeals to emotion and personal belief (Mackey & Jacobson, 2019). The manifestation of the pandemic in the post-truth age advances many questions about the role of facts in dealing with the crisis caused by the pandemic's potential long-term repercussions for the post-truth age (Schulman, 2020). As Coronavirus continues to ravage the whole world, the possibility is that ambiguity resulting from lack of knowledge makes it problematic for even experts to react to all the questions concerning the extent of the crisis and how to manage and cope with it.

In a situation like this, where the world is searching for accurate knowledge to deal with the pandemic, misinformation, charlatanism, fake news, and distortion of facts associated with the post-truth age have become the order of the day. The dilemma that arises from the need to fill the void left by the limited information accessible during the crisis has also heightened panic among the people (Schulman, 2020). At the initial stage of the Coronavirus outbreak, there was an overwhelming amount of information, particularly on social media platforms, as a meeting point for citizens' engagement relating to the sources and repercussions of the virus both locally and internationally. Sadly, a higher proportion of information relating to the pandemic, its symptoms, transmission methods, and response mechanisms have mainly been undependable. Because of this, social media spectators have been serenaded with misinformation, disinformation, misconceptions, and myths through propaganda and fake news. Nevertheless, part of this can be traced to social media platforms' technical landscape that inclines to categorise users through echo chambers and algorithms (Ogenga, 2020). Another predicament is the contradictions emanating from "reliable institutions" about facts relating to the pandemic and how it has promoted the infodemic significantly due to people's

desire to grow to find the solution to an unknown virus and comfortable facts that do not cause cognitive dissonance.

Misinformation is when people are fed with information that is not accurate or is false; it is unfounded information that is predicated on ignorance. Nyhan and Reifler, 2010) posit that misinformation occurs when people's beliefs about factual matters are not supported by clear evidence and expert opinion. It is, however challenging to determine the accuracy and authenticity of the information in the age of proliferation of information and information overload on the internet. In the midst overwhelming amount of information, it is often hard to distinguish which information is accurate and which is not (Warner-Søderholm, et al., 2018).

Aims of the Study

This article is grounded on content and in-depth analysis of the subject matter of the socio-economic impact of digital information manipulation and weaponisation of information.

Methodology

This research is conducted by using an interpretive research paradigm which is a structure and practice within social science research anchored on theoretical and methodological techniques of appreciating social reality (Given, 2012). The research used qualitative content analysis which is well-defined as an exploration method in a subjective interpretation through the methodical classification process of identifying themes or patterns to collect data (Hsieh & Shannon, 2005). Extant literature like journals, conference papers, and dependable online resources and policy documents were gathered and evaluated on the subject matter of information disorder in the context of Coronavirus, information hygiene, and librarian's perspective. The study identified gaps in study to give birth to new knowledge, relevant keywords were identified and used as a search strategy in different academic databases like EBSCOhost and web of science.

Information Detergent

The information consumed on a regular basis has a major impact on productivity, creativity and ability to plan. Likewise, during war, propaganda

is used by manipulating information to cause fear and apprehension, which is emotional trick exploited to persuade people to defend the ideals of going to war. Propaganda serves to stimulate and galvanize the people to act (Bailey, 2017). This section evaluate reasons that motivates why people are prone to misinformation and fake news.

- **Confirmation Bias**: this is the penchant to process information by considering, or interpreting, information that falls in line with or consistent with one's existing beliefs or outlook. This biased attitude to assessment of issues or decision making is generally inadvertent, accidental or unintentional and habitually results in overlooking inconsistent information. The existing beliefs can comprise one's expectations in a certain situation and predictions about a specific outcome. In this case, people are likely disposed to processing information to support or reinforce their predetermined beliefs when the issue is important or self-relevant (Casad, 2019). Furthermore, Confirmation biases stimulate how information is gathered, which can influence how people deduce and remember information. For instance, when people support or oppose a certain subject matter they will not only seek information that reinforced their beliefs, there is tendency that they will interpret news in a manner that endorses their prevailing ideas and recalling events in a way that fortifies these attitudes (Bethel College, 2021).
- **Cognitive Bias:** This is a systematic pattern of deviation from norm or rationality in decision and judgment. On most cases people create their "subjective reality" from their insight of the input, this may dictate their behavior. Hence, cognitive biases may lead to alteration and distortion, inexact judgment, irrational interpretation, or what is generally called irrationality (Haselton, et al, 2005). Cognitive bias has been described as mental shortcuts which affect the way information is process and used. In relation to fake news, people tend to act on the basis of news headlines and tags without indebt reading of the article, social media express signals that upset sense of popularity of information, which can leads to greater acceptance by the people even when the information is inaccurate. Fake news takes advantage of the collective political mental shortcut: partisanship. Finally, there is penchant for false information to persist even long after the wrong impression has been corrected (Silverman and Alexander, 2016).

- **Partisan News**: is the partiality of journalists and news reporters, which implies a prevalent or general bias contravening of the ethics of journalism, rather than the perception of an individual journalist. Neutrality in journalism includes inability to report by presenting all the available facts connected into a comprehensible narrative (Entman, 2007).

- **Post-Truth**: Represent a phenomenon in which objective facts are less influential in determining public opinion in which felling and emotion is more acceptable. In other words, post truth can be refer to as wishful thinking, political twist, mass delusion, bold-faced lying, it is a claim of ideological supremacy to coerce people to trust something irrespective of the evidence (McIntyre, 2018). In a post truth era where misleading information has been aggravated, it is important for the citizen to acquire new metal costume in dealing with the issue Durodolu, Ibenne and Dube, 2021).

- **Echo Chamber:** an echo chamber denotes a conditions in which beliefs and opinion are intensified or reinforced through repeated communication inside a closed system and shielded from disproof. In an occasion like this, information are acquired to reinforce existing opinions without encountering or coming across an opposing views or counter narratives, causing an unintended exercise in confirmation bias. Echo chambers could escalate social and political polarization, extremism and radicalization. On social media platform, echo chambers limit and curtail exposure to various viewpoints, and strengthen presupposed accounts and beliefs (Barberá, 2015).

- **Filter Bubble:** This also refers to ideological frame which people are thrown into a state of intellectual seclusion, that can be an outcome personalized searches in which a website algorithm selectively predicts what information a user's is seeking based on previous search strategy or history, containing users information, such as geographical location and account of information seeking behavior. Based on this, users are disconnected from information that distresses from their perspectives, leading to isolation of information seekers into traditional or conceptual bubbles (Bozdag, 2013).

6

The Socio-Economic Implications of Misinformation.

Misinformation have significant impacts in all phases of human lives; in social, ethical, economic, and political aspects of misinformation have consequential negative effect in the growth and development of a nation. Fake news and disorderly information behaviors can fuel social disorder, even though the benefit of internet as an enabler of communication, vehicle to overwhelming aggregates of information and motivating platform for socio-political engagement to any social group is undisputable, yet the far-reaching innovation in digital and communication technologies have constituted grave challenge to government, law enforcement, ICT companies and scholars in understanding and transmission of disinformation, extremist content and hate speech. Accessibility to social media and search engines' algorithms, which present and multiply content based on the preference of individual users, amplifying an existing dogmas and dogma, thus instigating group polarization (European Foundation for South Asian Studies (EFSAS), 2021). The effect of misinformation in economic activities is equally significant, this has been a concerning issue on economic development, information disorder can lead to plummeting stock prices, jeopardize the reputation of business organisation, or cause uncertainty in client expectations. Dishonorable practices in businesses may lead to generating fake news or misleading information or reviews that leads to improvement in stature or profits rating (Frazer, 2022).

According to Stansberry (2014), based on the survey carried out by University of Baltimore, that fake and misleading information shared online costs the economy worldwide an estimated $78 billion each year, most of the loss comes from stock market volatility triggered by rapid financial propaganda campaigns, this challenge has also forced many organization into investing in trademark safety and crisis communication efforts.

Misinformation also constitute grave danger to the political space specifically in three ways, by breeding wrongly informed citizens, by encouraging wrongly informed citizens who perpetually stay in echo chambers and be sensitively provoked or outraged because of the sentimental and provocative nature of the fake news. There has been allegations that fake news influenced electoral votes in many countries. Extensive transmission of falsehoods on social media pose a negative consequence for democratic practice, even traditional media are victim of fake and adulterated news because identifying misleading information is becoming a challenge (Vian and Andrew, 2018).

Another threat to democratic practice is when fake news is allowed to go uncorrected, leading people to stay incorrectly informed. This occurs when false information is nurtured into self-reinforcing algorithmic and cognitive systems, or digital "echo chambers" which exist in a situation where information, concepts or beliefs are amplified and reinforced through communication system and reverberation inside a distinct system where opposing views are diminished (Sunstein, 2001). The outcome of this is to separate information seekers from exposure to broad range of information that disagrees with their viewpoint (Pariser 2011). The irony is that this may happen without people being aware of the process. The third societal and democratic problem with misinformation is that it is sometimes based on sentiment. El-Sharawy (2017) affirms that social media promote emotional content that people are overwhelmed with whether it is true or not. Sometimes it is confirms that affective content are designed to incite and provoke voter outrage.

CONCLUSION

Misinformation and information disorder has become a phenomenon affecting the social, political and economic aspect of contemporary living. Information disorder is a pollution of information space with rumors, hate rhetoric, precarious conspiracy theories, destructive misinterpretations and orchestrated schemes of deception. While propaganda precedes the social media era, the digital communication landscape has polarized the political, economy and social environments. This chapter evaluate the reasons that motivates people in spreading misinformation and fake news and it was identify as confirmation bias, cognitive bias, post-truth, partisan news, filter burble and echo chamber.

REFERENCES

American Historical Association. (2022). *War Propaganda*. Retrieved 08/06/2022, from https://www.historians.org/about-aha-and-membership/aha-history-and-archives/gi-roundtable-series/pamphlets/em-2-what-is-propaganda-(1944)/

Bailey, C. (2017). *Ten ways to do an information detox*. Retrieved 03/04/2022, from https://alifeofproductivity.com/10-ways-to-do-an-information-detox/

Bakir, V., & McStay, A. (2018). Fake News and the Economy of Emotions. *Digital Journalism*, *6*(2), 154–175. doi:10.1080/21670811.2017.1345645

Barberá, P., Jost, J. T., Nagler, J., Tucker, J. A., & Bonneau, R. (2015). Tweeting from left to right: Is online political communication more than an echo chamber? *Psychological Science*, *26*(10), 1531–1542. doi:10.1177/0956797615594620 PMID:26297377

Bethel College. (2021). *Fake news or real? or how to become media savvy: Confirmation bias*. Retrieved 08/06/2022, from https://bethelks.libguides.com/c.php?g=591268&p=4194631

Bozdag, E. (2013). Bias in algorithmic filtering and personalization. *Ethics and Information Technology*, *15*(3), 209–227. doi:10.1007/s10676-013-9321-6

Casad, B. J. (2019). Confirmation bias. *Encyclopedia Britannica*. Retrieved 08/06/2022, from https://www.britannica.com/science/confirmation-bias

Durodolu, O. O., & Ibenne, S. K. (2020). The fake news infodemic vs information literacy. *Library Hi Tech News*, *37*(7), 13–14. doi:10.1108/LHTN-03-2020-0020

Durodolu, O.O., Ibenne, S.K., & Dube, T.V. (2021). New mental costumes: Leveraging ACRL's value of information frame in dealing with infodemics in a post-truth era. *College & Research Libraries News, 82*(4), 175.

El-Sharawy, S. (2017). *With Extreme Bias: Consuming Media in the Trump Era*. Paper presented at SXSW Interactive, Austin, TX.

Entman, R. M. (2007). Framing Bias: Media in the Distribution of Power. *Journal of Communication*, *57*(1), 163–173. doi:10.1111/j.1460-2466.2006.00336.x

European Foundation for South Asian Studies (EFSAS). (2021). *The role of fake news in fueling hate speech and extremism online; Promoting adequate measures for tackling the phenomenon*. Retrieved 08/06/2022, from https://www.efsas.org/publications/study-papers/the-role-of-fake-news-in-fueling-hate-speech-and-extremism-online/

Frazer, H. (2022). *Business and Economics: Fake News and Business Consequences*. Retrieved 08/06/2022, from https://libguides.geneseo.edu/business/fake-news-business-consequences

Given, L. M. (2012). *Interpretive Research: The SAGE Encyclopedia of Qualitative Research Methods*. SAGE.

Haselton, M. G., Nettle, D., & Andrews, P. W. (2005). The evolution of cognitive bias. In D. M. Buss (Ed.), *The Handbook of Evolutionary Psychology* (pp. 724–746). John Wiley & Sons Inc.

Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, *15*(9), 1277–1288. doi:10.1177/1049732305276687 PMID:16204405

Macdonald, S. (2007). *Propaganda and Information Warfare in the Twenty-First Century Altered Images and Deception Operations*. Routledge.

Mackey, T. P., & Jacobson, T. E. (2019). *Metaliterate Learning for the Post-Truth World*. Neal-Schuman.

McIntyre, L. (2018). *Post-Truth*. Retrieved 08/06/2022, from https://mitpress.mit.edu/books/post-truth

Nyhan, B., & Reifler, J. (2010). When Corrections Fail: The Persistence of Political Misperceptions. *Political Behavior*, *32*(2), 303–330. doi:10.100711109-010-9112-2

Ogenga, F. (2020). *Myths, misconceptions and politics of COVID-19 in Africa on social media platforms.* Retrieved 08/06/2022, from https://www.frontiersin.org/research-topics/13822/myths-misconceptions-and-politics-of-covid-19-in-africa-on-social-media-platforms#overview

Pariser, E. (2011). *The Filter Bubble: What the Internet is Hiding from You*. Penguin Press.

Schulman, R. (2020, June 15). *COVID-19 and the Post-Truth Age: The Role of Facts in Public Policy | Summary of an Online International Conference*. Retrieved 08/06/2022, from https://www.inss.org.il/publication/coronavirus-and-post-truth-seminar/

Silverman & Alexander. (n.d.). *How Teens In The Balkans Are Duping Trump Supporters With Fake News.* Retrieved 08/06/2022, from Available: https://www.buzzfeednews.com/article/craigsilverman/how-macedonia-became

Stansberry, K. (2014). *The Financial Drain of Misinformation*. Retrieved 08/06/2022, from https://prsay.prsa.org/2021/04/22/the-financial-drain-of-misinformation/

Sunstein, C. (2001). *Echo Chambers: Bush vs. Gore, Impeachment, and beyond*. Princeton University Press.

Wardle, C., & Derakhshan, H. (2018). *Information disorder: towards an interdisciplinary framework for research and policy making*. Retrieved from Council of Europe report: Retrieved 08/06/2022, from https://rm.coe.int/information-disorder-report-version-august-2018/16808c9c77

Warner-Søderholm, G., Bertsch, A., Sawe, E., Lee, D., Wolfe, T., Meyer, J., & Fatilua, U. N. (2018). Who trust social media? *Computers in Human Behavior*, *81*, 303–315. doi:10.1016/j.chb.2017.12.026

Chapter 2

Confronting Information Hygiene in the COVID–19 Pandemic Era in Zimbabwe Libraries:
Views From Selected LIS Practitioners

ABSTRACT

The world over, the COVID-19 pandemic and infodemic has become a serious issue for concern for governments, citizens, health experts, researchers, pharmaceutical companies, information managers and analysts, and international organisations, among others. The epidemic of fake or unhygienic information has spiralled, and strategies to counter it are now on the agenda of governments, information experts, and all those who are on the frontline of the war against the COVID-19 pandemic and infodemic. Librarians as information experts are raising their voices as they chart a new trajectory in the fight against the COVID-19 pandemic. This qualitative research examines how librarians in Zimbabwe are contributing to the fight against the COVID-19 misinformation through promoting praxis-oriented information hygienic practices. The study brings to light how the COVID-19 pandemic and infodemic has become a borderline for conquest by librarians.

INTRODUCTION

Information overload refers to a scenario whereby there is so much relevant and potentially useful information available that it becomes a hindrance rather than a help (Bowden and Robinson, 2020). The growing volume of relevant health information over the past decades, especially through internet sources, has amplified the issue of health information overload. The COVID-19 pandemic and infodemic pose a challenge and an opportunity for libraries to rethink and restrategise on praxis-oriented ways to assist users to overcome the problems of handling the avalanche of information emanating from the traditional mainstream media and emerging web-based platforms. Information overload occurs when the volume of the information supply exceeds the limited human information processing capacity. Dysfunctional effects such as stress and confusion are the results of it (Meyer, 1998). Zimbabwe, like the rest of the world, has not been spared from the devastating effects of information overload arising from the COVID-2019 pandemic and infodemic. This scenario has forced governments in Southern Africa to promulgate laws to manage the proliferation of fake news relating to COVID-2019. The problem is compounded by information overload and this creates cyberchondriac tendencies among information users as they unwittingly search for remedies on online sites.

Statement of the Problem

The outbreak of the COVID-2019 pandemic and subsequent infodemic has resulted in a scenario whereby citizens are overwhelmed by an avalanche of information thus causing anxiety and uncertainty. The Information explosion permeates all aspects of the socio-economic and political environment in people's lives, for example, the individual psyche, the workplace, the academic world, and those who manage information (Oche& Ogbu, 2020). Information overload results from the inability of an individual or organization to systematically manage and make informed decisions relating to a topic. Toefler (1970) predicted that the augmented degree of technological and social change characterizing the transition from the industrial to a super industrial society would be characterized by a flood of information that would overwhelm people resulting in a future shock.

13

Mohammed, Sha'aban, Jatau, Yunusa, Isa, Wada, Obamiro, Zainal, and Ibrahim (2021) conducted a global study that confirmed that COVID-2019 information overload (COVIO) was common among the public. The study aimed to measure the level of COVID-19 information overload (COVIO) and assess the association between COVIO and sociodemographic characteristics among the general public. The respondents to the online survey were drawn from selected countries in Africa, Asia, Australia, Canada, Latin America, and the United States of America (USA). According to this research, the source of information and the frequency of receiving COVID-2019 information were significantly associated with COVIO. Therefore, there is a need for health institutions and other stakeholders to set up and improve the programs that will raise awareness and ensure public enlightenment on the effective ways to manage COVIO and its health consequences. Igbinovia, Okuonghaeand Adebayo (2020) contends that fake news focuses on different topics, such as the origin of the new coronavirus as well as the cause, prevention, and cure for the Coronavirus disease. Fake news stories about the virus have become a serious concern for governments and international bodies due to its adverse effects on consumers. COVID-19 pandemic fake news has increased fear and uncertainty and has also put many lives at risk, as many individuals with symptoms related to viruses have tried unproven remedies in the hopes of preventing or curing themselves of the disease (UN News, 2020).

Himma-Kadakas (2017)viewed fake news as misinformation on social media and conventional media. This implies that fake news, also known as "junk news," is the deliberate and deceptive spread of news or information through print, online and other media. The spread of fake news seems to proportionally increase as information regarding COVID-19 increases. This is especially notable given the necessity to create awareness about the pandemic. In a bid to create awareness, several media companies, government agencies, non-governmental organizations (NGOs), and professional associations have begun to run awareness campaigns. Specific awareness has been created via radio advertisements, television broadcasts, print publications, and word-of-mouth campaigns. Social media remains a mainstream channel through which news about COVID-19 is shared. It is one of the highest patronized mediums for dispensing fake news.

Palen and Anderson (2016) contend that from a crisis informatics perspective events such as natural and unnatural disasters including pandemics result in high levels of uncertainty. During such times, people resort to 'collective sense-making as they try to obtain more information and take decisions in increasingly ambiguous situations (Waghre &Seth,2020)

14

The amount of reading matter gulped exceeds the amount of energy available for digestion, the surplus accumulates and is transformed by stress and over-stimulation into the unwholesome condition referred to as information overload anxiety (Wurman, 2001).

The term Information Overload (IO) is connected with the state of receiving too much information. Linguistically, there are many different synonyms and related terms (Eppler & Mengis, 2004), for example, Knowledge Overload (Hunt & Newman, 1997) and Communication Overload (Jones, Ravid & Rafaeli,2004). The concept of information overload refers to a state of imbalance between information processing demands and cognitive and mental capacities of information processing (Dabbish & Kraut, 2006).

Bojanic (2021) traces the origin of the concept of "information hygiene" to Stone's (2002) concept of "continuous partial attention" which implies the condition in which the human mind is constantly scanning for information in an effort not to miss anything. According, to Stone (2002) information in millimetric doses can make us more productive while in colossal doses it overstimulates and exhausts us. Stone's (2002) views provide a basis for comprehending and apprehending the concept of information overload as will be highlighted in the next paragraph. Nadirova (2020) concurred with Bojanic (2021) that the modern techno-centric world was characterized by an overwhelming volume of information which made it difficult for consumers to digest because of a lack of willpower or the critical consciousness to refuse to absorb the mega, Giga and zettabytes. The author noted that when the brain is overloaded and clogged with too much information the capacity to think logically is diminished. This predicament can be overcome if information consumers rise above being mere consumers to a higher level of conscious consumers weaponized with information and digital literacy skills of the twenty-first century. This place the librarians in the vanguard position of the information matrix as they reposition themselves as key assets in the fight against the COVID-19 pandemic and infodemic through alacrity and proclivity in providing praxis-oriented information/digital literacy skills to users.

Antoni and Ellwart (2017) described information overload (I.O) as a state of overburden that evokes a feeling of being overwhelmed, where the information processing requirements exceed the processing capacities, independent of information type or medium. The word "Overload" has become a buzzword in the increasing technology and information/knowledge-driven economy of the twenty-first century (Levy, 2009, p. 512). The impact of overload on the human psyche is characterized by feelings of frustrations, ruined decision-making ability, exhaustion, and being at the mercy of one's

environment (Burchell, 2015). A new lexicon has proliferated dictionaries with such novel words as connection overload (LaRose, Connolly, Lee, Li & Hales, 2014), techno overload (Dhir & Midha, 2014), and technology overload (Karr-Wisniewski & Lu, 2010).

Chisita and Ezema (2021) referred to the information overload arising from the COVID-2019 pandemic and infodemic as the coroinfodeluge as it relates to the avalanche of COVID-2019 information that proliferates social media thus overwhelming the capacities of individuals to analyze and make judicious use of the information. This information consists of factual and non-factual information including fake news, misinformation, and misinformation. The aforementioned authors noted that Higher Education Institutions (HEIs) in South Africa had strengthened the capacity of digital libraries to ensure constant uninterrupted access to enable students and researchers to manage the complex coroinfodeluge challenges of the pre and post COVID-19 pandemic era. While Chisita and Ezema (2020) were writing about the effects of COVID -2019 on South Africa the same scenario applies to Zimbabwe and any other country reeling under the effects of the COVID-2019 pandemic and infodemic. However, this precarious situation can be remedied if all stakeholders including governments, the media, libraries, and citizens contribute towards the building of an information hygienic society whereby citizens are weaponized with knowledge and skills to use information judiciously.

RESEARCH QUESTIONS

The study will be guided by the following research questions:

1. What contributions has your library done to contribute towards overcoming the COVID-19 pandemic and infodemic?
2. Outline the steps your library has taken to raise awareness of the COVID -19 pandemic and infodemic
3. Do you think libraries have a role to play in tackling the COVID -19 pandemic and infodemic?
4. As a member of the national Zimbabwe Library Association (ZIMLA) can you explain its position on the COVID-19 pandemic and infodemic?
5. How has the COVID-19 pandemic and infodemic affected the services of the library that you work for?
6. What strategies should be adopted by libraries to tackle the COVID-19 pandemic and pandemic?

RESEARCH METHODOLOGY

This study is based on the Interpretivist Phenomenological Analysis (IPA). It is a qualitative study based on the review of textual documents relating to the COVID-19 pandemic and infodemic and data from selected librarians in Zimbabwe. Creswell, & Poth, (2016) contends that qualitative research focuses on closer attention to the interpretive nature of inquiry and locates the study within the political, social, and cultural milieu of the researchers, and the presence of the researchers in the accounts they present. Data were collected by analyzing textual documents and interviews. The interviews were conducted on a purposeful sample of 33 participants drawn from different libraries in Zimbabwe. The inclusion criteria for the study was based on participants' knowledge of the study area, and willingness to participate in the study.

Data was collected from the participants using Google Forms. This digital technology was chosen because it provided a convenient means to collect data amidst the strict COVID-19 pandemic rules that have become the order of the day globally. The researcher shared a web-based semi-structured interview schedule using the Google-Forms platform and the link was circulated among the librarians through emails and social media. Google Forms made it relatively manageable to collect data over the web since the participants filled the interview forms online. The use of Google Forms to collect data was targeted toward those participants with high internet connectivity thus eliminating the physical presence of the researcher. Bhalerao, (2015) acknowledged Google Forms as a key web-based application for collecting data in the social sciences. Ethical considerations relating to consent and privacy were outlined in the semi-structured online interview schedule.

Contextual Background of the Study

The World Health Organisation (WHO) (2020) declared the COVID-19 a global pandemic on 11 March 2020 (Cucinotta, and Vanelli, 2020). Osseni (2020) noted that globally, nations responded swiftly and different preventive and mitigatory measures were enforced, including but not limited to travel and movement restriction, gathering prohibition, generalized or partial lockdown, handwashing, and good hygiene promotion. Lone, and Ahmad (2020) noted that Africa's first case of COVID-19 infection was confirmed in Egypt on the 14th of February, 2020 while Osseni (2020) and Adepoju. (2020) cited Nigeria

as the first occurrence of the COVID-19 pandemic in Sub –Saharan Africa reported on 28 January 2020. Leach, MacGregor, Scoones, and Wilkinson (2021) argued that the COVID-19 pandemic was a global concussion on societies and economies, and its impact and the preventive and mitigatory measures to control it have raised questions about epidemic preparedness and more general development, past, present and future. Osseni (2020) contends that Sub –Saharan Africa is experiencing a myriad of health challenges arising from the COVID-19 pandemic because of its susceptible health care system. The World Economic Forum, (WEF,2020) argued that Africa's feeble health care system and a large immunocompromised population owing to a high prevalence of malnutrition, anemia, malaria, HIV/AIDs, tuberculosis, and poor economic discipline, made it distinct from the other continents that have experienced COVID-19 to date. Overall, there was anticipation from health experts that under such conditions the pandemic in Africa could be challenging to control, and the consequences could be bleak.

The healthcare capacity of a country is a critical factor in COVID-19 management and control and there is a sharp contrast between Africa and the developed nations that have advanced health care systems even though they continue to struggle in coping with the current pandemic (Mo Ibrahim Foundation, 2020).

Dahab, Van Zandvoort, Flasche, Warsame, Ratnayake, Favas... and Checchi, (2020) noted that the pandemic was expected to have a wide-reaching, social, economic, and health impact on low- and middle-income countries despite their generally younger populations. Walker, Whittaker, Watson, Baguelin, Winskill, Hamlet, ... Ghani, (2020) and Sochas, Channon, and Nam, (2017) cited three factors that threatened morbidity and mortality rates in these countries:

(i) congestion and large household sizes, which could increase transmissibility;
(ii) the high frequency of comorbidities, which could make evolution to severe disease more likely; and
(iii) the lack of intensive care capacity, which could increase case fatality rates.

Mackworth-Young, Chingono, Mavodza, McHugh, Tembo, Chikwari, Weiss, Rusakaniko, Ruzario, Bernays, and Ferrand (2021) conducted a study on community perceptions on the COVID -19 responses in Zimbabwe and the findings confirmed the hazardous impact of misinformation,

conspiracy theories, and fake news. The participants in the study reported being barraged with information about COVID-19 from print and digital media, government announcements, relatives living in the diaspora, and conversations with neighbors. Mackworth-Young, et al (2021) noted that while research participants in their study viewed access to information as important for understanding and practicing preventive measures, there were growing concerns about the myriad of sources and the issue of reliability. The study participants were concerned about the unhygienic and dangerous information sources.

Many authors have highlighted the disastrous effects of the misuse of social media during a pandemic as evidenced by the growing scourge of information disorder during the COVID-19 pandemic era. This scenario has resulted in governments promulgating laws to control the misuse of social media during the COVID-19 pandemic.

The government of Zimbabwe announced a national lockdown to be implemented with immediate effect from the 28th March 2020 (Statutory Instrument (SI) 83 of 2020. [CAP. 15:17 Public Health (COVID-19 Prevention, Containment, and Treatment) (National Lockdown) Order, 2020). The Statutory Instrument (SI) 83 of 2020 resulted in the closure of essential businesses and confined citizens to their homes for 21 days with legal exceptions for essential activities. The gazetted Statutory Instrument (SI) 83 of 2020 criminalized the publication and communication of fake news relating to the COVID-19 pandemic (Machivenyika, 2020). Madhuku (2020) cited in the *Herald* (2020) hinted that the promulgation of (SI) 83 of 2020 SI was constitutional. Globally, countries that have declared lockdown have had to promulgate laws to justify their actions. According to the (SI) 83 of 2020 "….any person who publishes or communicates false news about any public officer, official or enforcement officer involved with enforcing or implementing the national lockdown in his or her capacity as such, or about any private individual that has the effect of prejudicing the State's enforcement of the national lockdown, shall be liable for prosecution …and liable to the penalty there provided, that is to say, a fine up to or exceeding level fourteen or imprisonment for a period not exceeding twenty years or both".

Diseases, (2020), Durodolu, Ibenne, and Dube (2021), and Chisita (2020) raised concerns over the escalation of fake news, misinformation, and conspiracy theories since the outbreak of the COVID-19 pandemic. Chisita (2020) and Zarocostas (2020) contended that notwithstanding the speedy response to the (COVID-19) pandemic by WHO, it has become a ritualized formality that every outbreak triggers information disorders, misinformation,

and gossip resulting in an infodemic. Naeem and Bhatti (2020) described an infodemic as a disproportionate amount of information concerning a problem such that the solution becomes cumbersome thus leading to anxiety among the public as they grapple to differentiate evidence-based information from a wide-ranging array of unreliable misinformation. Spinney, (2019) and Bode and Vraga (2018) argued that social media has been abused to the extent that knowledge about the virus becomes distorted during the COVID-19 pandemic as was the case with other pandemics, for example, the 2014-2015 Ebola and the 2015-2016 Zika epidemics.

The Edelman Trust Barometer (2021) noted that there was a growing epidemic of misinformation and widespread mistrust of social institutions and leaders due to the unprecedented disaster and turbulence of the Covid-19 pandemic. The Edelman Trust Barometer (2021) noted that the COVID-19 infodemic plunged the trust of news sources to a low record ranging from 35% for social media with the traditional media having the lowest drop of 53%. The path toward recovery from the COVID-19 would depend on the abilities of all stakeholders to work together and practice information hygiene (Edelman Trust Barometer,2021). The Edelman Trust Report (2021) by ensuring regular engagement with news and different viewpoints, verifies information, and avoids the proliferation of the vectors of misinformation on the COVID-19 pandemic and efforts to eradicate it from the planet. The recommendations of the Edelman Trust Report (2021) are in sync with the International Federation of Library Associations and Institutions (IFLA) initiative on "How to Spot Fake News" in the COVID-19 pandemic and infodemic era. The two reports acknowledge the dangers of the COVID-19 pandemic and infodemic and proposed solutions that are anchored on information and media literacy models.

Tennison (2020) contended that the fight against the COVID-19 pandemic and infodemic required a combination of information and personal hygiene. The author urged the media and opinion leaders to practice good information hygiene as highlighted by but not limited to the Edelman Trust Report (2021) and the IFLA (2021). Tennison (2020) highlighted the need to cite and verify sources and provide citizens with reliable data to enable them to make informed decisions about the COVID-19 pandemic. Similarly, Bojanic (2021) noted that while it was important to apply hygienic practices, to the human body, it was equally important to do the same to information amidst the menacing COVID-19 pandemic and infodemic

The International Federation of Library Associations and Institutions (IFLA) produced a COVID-19 edition on "How to Spot Fake News" infographic

20

that strongly focuses on some of the issues encountered around the pandemic concerning the need to check with other sources in an era of information disorder (IFLA, 2021).The series of steps in the IFLA COVID-19 edition on the '' How to spot fake news'' infographic consist of a series of steps, namely;

(i)   consider the source;
(ii) check the author;
(iii) check the date;
(iv) check your biases;
(v)   read beyond;
(vi) seek supporting sources;
(vii) ask 'is it a joke?' and
(viii)   ask the experts (see Fig, I below).

Naeem and Bhatti (2020) concur with (Banks, 2016; Dempsey, 2017) noted that the knowledge, skills, experience, and professional alacrity of Health Sciences Librarians (HSLs) remained a key pillar in the fight against fake news. The authors argued that since the 1980's HLSs have played a leading role in enlightening people through information literacy programs about how to evaluate facts and how to check the authenticity of the information.

Haleem, Javaid, Khan, and Vaishya, (2020) and Wang, Ng, and Brook, (March 2020) argued that the outburst of COVID-19 cases and their health data has created a vital source of information and knowledge, and it was imperative to utilize varied data storage technologies. Trends, Gruenwald, Antons, and Salge, (2020) noted the increase in the number of scientific articles on the COVID-19 pandemic resulting in an information overload that requires data analytics tools to provide computer-generated evidence maps of scientific publications on the pandemic and daily updates from PubMed, HubMed, Google Scholar, Cochrane Library, Web of Science, Scopus, Hinari, and other medical search engines.

Findings, Discussions, and Data Analysis

The researcher received 33 responses from the participants of which 42% (n=14) were females, while 55%(n=18) were males and the remainder 3% (n=1) did not indicate their gender. The participants were drawn from academic, school, public, and special libraries. The verbatim responses from the participants will be used as they appear in the data collection tools to avoid distortions of implied meanings. The majority of the responses are

from academic libraries because they were drawn the biggest employment providers.

Figure 1. The IFLA infographics on countering fake news

Table 1. Response were as follows:

Participant	Response
P,1	It helps in giving the right guidelines as to how libraries operate
P,2	Not quite in the loop on what is happening on the ground and the latest updates other than support and solidarity with government initiatives.
P,3	The National Association has communicated a clear position on the Covid-19 pandemic/infodemic
P,4	very little or no action or activities undertaken
P,5	Zimla has done nothing
P,6	ZIMLA has promoted virtual events and encouraged members to limit physical meetings… encouraged members to exchange ideas in WhatsApp groups and participate in the AfLIA MOOC events that targeted ways of tacking information overload and the infodemic. Librarians have also taken time to discuss the future of virtual meetings and planning strategies to tackle pandemics or any natural disaster.
P,7	Currently there is no guideline paper from ZIMLA that is available or that I know of hence the association's position may not be clear. However, we stand guided by the rules set forth by the organisations that directly employ us.
P,8	ZIMLA is advocating for the continued use of Libraries in a manner that balances continued service and safety of patrons
P,9	It is composed of Librarians from different Information Centres and all these people are agents in as far as fighting of Covid 19 pandemic is concerned
P,10	This should be an information hub for the dissemination, spread and awareness of the pandemic. More ways and channels to be created for this purpose.
P,11	The position is that libraries are underfunded in the country since most libraries depend on subscriptions hence lockdown means financial loss. The COVID-19 has shed light on librarians to create, update or review disaster management strategies and promote counter fake news and disinformation.
P,13	ZIMLA supports, facilitates and give initiatives to libraries by providing platforms for forums and discussions on COVID-19, for example their Facebook page which advocates for Library Websites for digital content to curb challenges libraries are facing during the COVID-19 period. this is to ensure that libraries deliver services since the pandemic has limited in-person library services
P,14	Is to create awareness and come up with the strategies that libraries can use for them to remain relevant to promote awareness of Covid 19, create disaster management strategies, promote collaboration and
P,15	networking to develop e-services and help counter fake news and disinformation.
P,16	ZIMLA is now responsible for the placement of qualified librarians to institutions so that libraries could provide above standard information to people
P,17	I am not a member Sir
P,25	Unfortunately, we aren't a member but I am convincing the organisation to fund us, to join such wonderful associations
P,29	ZIMLA is promoting an awareness to prevent misinformation as far as Covid 19 issues are concerning by making sure the correct information reaches the world.
P,31	Zimla is there to teach, inform, participate on how to curb the pandemic

What Contributions has your Library Done to Contribute towards Overcoming the COVID-19 Pandemic and Infodemic?

While there were varied responses to the interview question, all 33 participants confirmed that they had to adjust their services in line with the prevailing COVID-19 pandemic and infodemic. Their contributions were in the form of the measures they had implemented to curb the spread of COVID -19 pandemic, for example, COVID-19 compliant sitting arrangements, the use of sanitizers, minimizing the use of hard copies, and encouraging the use of soft copies, sharing COVID-19 information from verifiable sources, providing digital and information literacy skills, raising awareness and reaching out to users online and on social media platforms. The responses relating to the measures being undertaken to curb the COVID-19 pandemic are as follows;

P, 1 "… We have new seating plans…. Sanitizing points and …have minimized the borrowing of books as many of the learners have been given soft copies. We managed to give learners verified information from WHO guidelines when using the library …"

P, 2 "…information dissemination …. encouragement of ebooks of the Digital library innovation's and the provision of information literacy skills …"

P, 3 "…we developed our COVID-19 guides and standard operating procedures which are reviewed periodically. The objective was to provide the University community with factual information on services provided during the pandemic and mechanism implemented for infection control and prevention…"

P, 4 "... provision of information literacy and academic integrity…"

P, 5 "…hosted COVID -19 information session on our Facebook page and WhatsApp group..."

P,6 "…Allowing access to e-resources both online and off-campus…"

P, 7 "… our library has been active on WhatsApp and the campus is promoting awareness on the COVID-19 pandemic and infodemic … encouraged members of our community to get in touch with us if they need to learn…"

P, 8 "… sharing COVID-19 pandemic stats and other information online on how to stay safe during the COVID-19 pandemic era … reduced physical interaction with students by using social media … we promoted remote access to library databases …. Enforced social distancing rules at our premises…"

24

P, 9 "…availability of off-campus e-resources, access to university digital repository …. produced information sheets and infographics on combating the spread of COVID-19 pandemic …. embarked on an awareness campaign …"

P, 10 "… healthy safety measures implanted and we have introduced an Online system and more educational databases to prevent the physical handling of books by users…"

P, 11 "…providing online interactions between the library staff and clients and increase the number of online resources…"

P, 12 "…. provision of online resources and raising awareness …."

P, 13 "…providing access to COVID-19 pandemic and infodemic information…. enforcing precautionary measures such as masking up, sanitization, temperature checks, and social distancing…"

P, 14 "…collecting relevant data on COVID-19 pandemic and infodemic, use of face masks, social distancing … encouraging students to use verified sites when researching on COVID-19 pandemic to prevent disinformation and misinformation…"

P, 15 "…raising warmness by gathering relevant information from the Ministry of Health and Child Care and WHO on the COVID-19 pandemic and sharing with the public…"

P, 16 "…Providing online library services using social media platforms … partnering with other organizations or stakeholders in the fight against COVID-19 pandemic …"

P, 17 "… providing information on how to curb the spread of the COVID-19 pandemic and infodemic and observing WHO guidelines on the COVID-19 pandemic and infodemic …"

P, 19 "…. educating patrons on how to authenticate the COVID-19 pandemic information…"

P, 20 "… raising awareness on the spread of COVID-19 … assisting in the use of electronic resources for students…"

P, 21 "…setting up a digital library known as REMOTEX… and observing WHO regulations…"

Outline the Steps your Library has taken to Raise Awareness of the COVID -19 Pandemic and Infodemic?

This question sought to find out from the participants the praxis-oriented approach they were undertaking to curb the COVID-19 pandemic and

25

infodemic. The responses indicated that the 33 (100%) participants had embarked on practical steps in line with the WHO COVID-19 pandemic guidelines. The participants (P, 1 to 33) confirmed that they had embarked on more or less similar programs to combat the COVID-19 pandemic and infodemic. These measures apply to the various types of libraries. The differences in the application or implementation of measures lie in the degree of enforcement, availability of resources including PPEs, sanitizers, and internet connectivity among others. The following statements reflect the commonality of responses to the aforementioned question. The researcher will highlight the responses that answer the question.

P, 1 "...learners have been divided into groups to limit the number of patrons at any time and they stick to their timetable. We have encouraged learners to bring their own devices to minimize sharing of resources…"

P, 2 "Taking a leading role in the dissemination of information and awareness on the COVID- 19 …dissemination of accurate and verified info from reputable sources…"

P, 3 "…Shared our guidelines on the website, through the University email system, notices and posters and. ...awareness education campaigns through online publications…Information evaluation and dissemination…"

Participants (4, 3, 5, 6, 7, 8, 10, 12, and 16) highlighted that they used email, social media, and web-based platforms to raise awareness of Covid-19. The participants cited webinars, infographics, and other resources from the Centre for Disease and Control (CDC)

Furthermore, the professional association, ZIMLA complimented the efforts of individual librarians and institutions by hosting webinars and discussions on the way forward in managing the COVID -19 pandemic and infodemic. This helped to contribute toward professional growth and raising awareness among the members of ZIMLA on the measures to control and prevent the COVID-19 pandemic and infodemic.

Participants, 3, 4, and 19 highlighted that their institutions posted notices and updates, views and opinions on the COVID-19 pandemic and infodemic. They indicated that they updated their library policies to include surrounding the COVID-19 pandemic and infodemic (P,1-33). The use of print and digital media and partnership with the Ministry of Health and Child Care was highlighted as a key channel for raising awareness and reaching out to users by all the 33 participants. The participants also indicated that information/ knowledge sharing was central to fighting the COVID -19 pandemic by

26

facilitating shareable access to verifiable information for evidence-based decision-making. The information shared by the participants with users included, the latest information on lockdown levels, rules, and regulations and raising awareness. The following statement from selected responses from the participants confirms the steps taken by libraries in the fight against the COVID-19 pandemic and infodemic.

P, 17 "…information, raise awareness through social media and electronic resources."

P, 26 "… the use of web-based harsh #tags to spread the awareness the library has also taken advantage of the online communication tools where it posts relevant information concerning covid-19 the library has conducted virtual sessions where it takes time to educate the students in how to search, evaluate information before spreading it"

P, 31 "Migrated to e-resources & encouraged users to minimize hardcopy usage"

P, 33 "following WHO regulations, such as putting of masks, social distancing in the library"

The other measures implemented by librarians included the use of signposts at the entrance of the library reminding users of the common symptoms of COVID-19 -pandemic and infodemic, temperature checks when entering the school, ensuring that rooms were well ventilated by opening all the windows and doors of the built environment and other general hygienic practices, for example, sanitization, enforcing the wearing of masks, social distancing, minimizing the number of users who use the physical library at a given time and awareness campaigns, ensuring that circulated books were placed in the dropbox and checked out after 48hours and providing remote access.

If your Answer to the Above is Yes, use the Space Below to Justify your Answer?

The participants justified their answer to the above by highlighting that libraries served as vital drivers of disseminating information hence the need to be at the forefront in the fight against the COVID-19 pandemic and infodemic. These sentiments were supported by participant, P, 8 "…as gateways to knowledge and culture, libraries play a fundamental role in society. The resources and services they offer create opportunities for learning, support literacy, and

education, and help shape the new ideas and perspectives that are central to a creative and innovative society to counter misinformation…" Similarly, participants, P,14 noted that "…Libraries are a key service provider whose service is deemed critical since learning never stopped. The nature of our business is also such that we serve clients from diverse stations thus Libraries have a direct role in mitigating the impact of the pandemic, especially in the provision of correct, evidence-based information to our communities"

Overall, 100% (n=33) of the participants (n=33) concluded that libraries should train citizens on how to access credible COVID-19 pandemic information resources as well as raise awareness by conscientising the community on how to verify the credibility of information. The participants highlighted that it was the duty of librarians to help users overcome the negative impact of social media and teach users about the ethical use of such platforms. The responses confirmed that 100% of the participants were aware of their duty and the dangers of the COVID-19 pandemic and infodemic. The responses confirmed that as information professionals the participants were conscious of the myths, lies, misinformation, or conspiracies relating to the COVID -19 pandemic and that they had a role to counter this dangerous scenario through systematic information dissemination.

As a Member of the National Zimbabwe Library Association (ZIMLA) can you Explain its Position on the COVID-19 Pandemic and Infodemic?

The responses to the question reflected the views of the participants on the position of ZIMLA on the COVID-19 pandemic and infodemic. While 3 participants representing 9% of the total indicated that ZIMLA was doing nothing, the majority, 91% (n-30) acknowledged that the national association was active as evidenced by the COVID-19 webinars and communication on social media. The failure to acknowledge the works of the association is a result of the non-membership status of some of the participants. Membership in ZIMLA is voluntary and this implies that one can practice without being a member. The notable highlight of these responses is that ZIMLA has not been silent but has contributed to the fight against the COVID-19 pandemic and infodemic by working with key stakeholders.

Table 2. Responses by participants on the Zimla position on the COVID-19 pandemic and infodemic

Participant	Response
P,1	It helps in giving the right guidelines as to how libraries operate
P,2	Not quite in the loop on what is happening on the ground and the latest updates other than support and solidarity with government initiatives.
P,3	The National Association has communicated a clear position on the Covid-19 pandemic/infodemic
P,4	very little or no action or activities undertaken
P,5	Zimla has done nothing
P,6	ZIMLA has promoted virtual events and encouraged members to limit physical meetings… encouraged members to exchange ideas in WhatsApp groups and participate in the AfLIA MOOC events that targeted ways of tacking information overload and the infodemic. Librarians have also taken time to discuss the future of virtual meetings and planning strategies to tackle pandemics or any natural disaster.
P,7	Currently there is no guideline paper from ZIMLA that is available or that I know of hence the association's position may not be clear. However, we stand guided by the rules set forth by the organisations that directly employ us.
P,8	ZIMLA is advocating for the continued use of Libraries in a manner that balances continued service and safety of patrons
P,9	It is composed of Librarians from different Information Centres and all these people are agents in as far as fighting of Covid 19 pandemic is concerned
P,10	This should be an information hub for the dissemination, spread and awareness of the pandemic. More ways and channels to be created for this purpose.
P,11	The position is that libraries are underfunded in the country since most libraries depend on subscriptions hence lockdown means financial loss. The COVID-19 has shed light on librarians to create, update or review disaster management strategies and promote counter fake news and disinformation.
P,13	ZIMLA supports, facilitates and give initiatives to libraries by providing platforms for forums and discussions on COVID-19, for example their Facebook page which advocates for Library Websites for digital content to curb challenges libraries are facing during the COVID-19 period. this is to ensure that libraries deliver services since the pandemic has limited in-person library services
P,14	Is to create awareness and come up with the strategies that libraries can use for them to remain relevant to promote awareness of Covid 19, create disaster management strategies, promote collaboration and
P,15	networking to develop e-services and help counter fake news and disinformation.
P,16	ZIMLA is now responsible for the placement of qualified librarians to institutions so that libraries could provide above standard information to people
P,17	I am not a member Sir
P,25	Unfortunately, we aren't a member but I am convincing the organisation to fund us, to join such wonderful associations
P,29	ZIMLA is promoting an awareness to prevent misinformation as far as Covid 19 issues are concerning by making sure the correct information reaches the world.
P,31	Zimla is there to teach, inform, participate on how to curb the pandemic
P,32	Solicited for e-newspapers from our usual suppliers to avoid physical contact & concurrently informed the suppliers and users on the dangers of the endemics and coexistence in this new normal. Notices were displayed and emails sent to all clients
P,33	trying to move toward e-library dissemination of information on curbing against Covid as the library is not electronic, physical sharing of books was a big drawback

How has the COVID-19 Pandemic and Infodemic affected the Services of the Library that you Work for?

The responses to this question from 100% of the participants confirmed the COVID-19 pandemic had affected them resulting in total or partial closure, the failure to recall loaned physical books, and exposing technologically starved libraries to the realities of digital exclusion and the dire need to adjust to the new techno-centric normal characterized by digital compliance. However, the COVID-19 pandemic and infodemic has also spurred innovation as libraries with resources continued offering digital library services for remote access. The issue of concern relates to the sustainability of such services considering the costs of data. Academic libraries are better positioned to offer digital library services than other libraries, for example, Online Distance e-Learning (ODeL) has been the cornerstone of open universities

What Strategies should be Adopted by Libraries to Tackle the COVID-19 Pandemic and Pandemic?

This question sought to gather data on the strategic thinking levels of the participants and the praxis-oriented solutions they had to counter the COVID-19 pandemic and infodemic. The key strategies highlighted by all the participants (100%, n=33) were the need for digitization, upholding WHO regulations on hygienic practices, adjusting to the new normal, partnerships with stakeholders, rethinking, and strategizing library services, social advocacy, and promoting digital library services. These strategies reflect the conscious and futuristic mindset of the librarians as they plan for the current and post COVID-19 era.

How can Partnerships between Libraries and Partnerships with other Stakeholders be useful in Enhancing Library Services amidst the COVID-19 Pandemic and Infodemic?

This question received a 100% response (n=33). The participants hinted that libraries would use partnerships to exchange information on the COVID-19 pandemic and infodemic. The participants highlighted that partnerships with key stakeholders including libraries, communities, government, and international organizations would create platforms to exchange COVID-19 pandemic information. They highlighted the need for partnerships to develop online portals and gateways to facilitate wider access to information. The

30

Table 3. On responses on the effects of the COVID-19 pandemic and infodemic on library services

Participant	Response
P,1	I have not been able to borrow out materials and learners some of them do not adhere to new rules
P,2	Access to the physical library has been restricted to greater extent. Limited numbers allowed to access library resources.
P,3	access has been restricted especially during lockdown periods
P,4	We have scaled down service provision especially face to face and have implemented more virtual services
P,5	Less user interaction, borrowing of resources halted, virtual reference services
P,6	The pandemic has forced libraries to close doors for public…services literary came to a halt as we adhere to restrictions enforced by the government... this was an opportunity to be innovative and start new online services…creation of chat services, email services and online libraries with information …
P,7	Opening hours have reduced. Physical contact with patrons has gone down. We have had to reduce library staff numbers
P,8	a spike in requests for electronic resources as fewer people make use of physical books. There has also been a surge in requests for reputable websites that offer authoritative information on the pandemic.
P,9	To a lesser extent because the services are accessible online
P,10	We had less staff coming to work and others working from how but without supervision
P,11	…we have had to shut down all services during the better part of the lock down thereby denying our clients service. Users are now subjected to social distancing in the library and only a limited number is able to use the library at any given time...
P,12	Government Lockdown restrictions have limited the number of patrons, also, the push for digital collections and or their use at a time budgets are getting lower and lower library closure.
P,13	Few people frequent the Library to collect the books which they would reserve only
P,14	Closure of libraries since we rely on provision of hard books as reading material because we don't have e-resources to opt for online services
P,15	...the pandemic caught us off guard…clients no longer able to use the discussions area. Rather a more expensive way to interact with the library through these expensive internet and gadgets. The local information technology infrastructure wasn't ready for this kind of influx hence taking a huge toll on most disadvantaged students and even the university as a whole
P,16	Resources borrowed may never be returned, risk of contracting the virus directly, reduced number of clients per opening period, financial loss from fines
P,17	There was a period during the lockdown when the library was closed and the fact that we don't offer online services, closure entails that researchers were denied access to information during that period. Access to information during this period is not guaranteed …Researchers are asked to make a booking first then a date is given that is convenient for the library since it cannot accommodate a lot of people if they are to practice social distancing.
P,18	Moved away from the brick and motor library to e-library services which is expensive to developing countries like Zimbabwe in terms of infrastructure, and cost of commercial e-resources.
P,19	The library is now not able to loan out books and not everyone is now able to visit the library this has forced the library to operate virtually only.
P,20	…we were not operational for more than nine months since last year 2020…experienced book loses because not all resources checked out last year were returned…
P,21	some service has become irrelevant i.e. physical book borrowing
P,22	…yes we tried to provide online services but still it's not easy in an economic environment as ours because almost everything is beyond the reach of many, be it gadgets, data, infrastructure, electricity…
P,23	It reduces the number of users in the library
P,24	The library was closed and there was no circulation of print materials
P,25	Very disturbing as operations are not, full capacity
P,26	There are some students who cannot afford to access the internet because bundles are very expensive to have a lesson for many hours. However, some students depended on library resources only to access the internet
P,27 P,28	Our clientele is across Zimbabwe and the world. In Zimbabwe, the challenge is connectivity in some parts of the country and this has affected the clients who rely on the libraries; the internet to do their work and researches.
P,30	Since it is a special library, the staff members did not utilize the library services

Table 4. Responses on the strategies for adoption by libraries to tackle the COVID-19 pandemic and pandemic

Participant	Response
P,1	Libraries central to the fight against COVID-19 pandemic and infodemic
P,2	availing verified and accurate info, fight misinformation, repackaging materials into appropriate formats
P,3	Evidence Based Intervention for dissemination of information to the public. Providing Health care
P,5	Create knowledge sharing platforms that demystify the pandemic …promote research towards sustainable solutions
P,7	increase access to information about the pandemic and strategies to contain it…increase circulation on vaccination, creating awareness on the recommendations from WHO and CDC.
P,8	train citizens on how to access credible COVID-19 resources
	provide their communities with accurate and timely information on the pandemic. …develop electronic services that provide convenience…
P,10	Participate in AFLIA activities to develop local content
P,12	Train librarians on the COVID -19 pandemic and infodemic
P,16	Providing links to verifiable sources of information
P,17	Libraries should lead in the verification of the authenticity of COVID-19 pandemic information
P,20	Provide digital library services
P,23	Documenting COVID -19 pandemic information
P,24	Embrace the new normal
P,26	Keeping track on social intelligence and social listening on COVID -19 pandemic and infodemic
P, 27	Disseminated correct and reliable information on COVID-19, counter infodemic by providing proven evidence on the pandemic. Stakeholders should be involved and Disaster recovery programs should be put in place in the event that disaster strikes.
P,28	Provide support to research and policy making on the COVID-19 pandemic and infodemic

provision of information literacy skills was highlighted by all participants as a solution to overcome the COVID -19 pandemic and infodemic.

One of the strategies recommended was the adaptation of information repackaging strategies as a way to simplify information for the benefit of specific user groups, especially in the localities that libraries operated. This sentiment is important because most of the COVID-19 pandemic information is written in complicated technical languages and when announcements are done they are presented in a technical language, for example, lockdown, super spreaders, and COVID-19 epicenter among other numerous terms.

The participants viewed partnerships as a way to enhance the capacity of libraries to work with communities, government, civil society, and industry in order to secure support and capacity to buy resources for digitization. These

partnerships would enable access to information on updates on COVID -19 cases, mitigatory and preventive strategies, stigmatization, social cohesion, accessing the information on vaccines, promoting personal hygiene, building consensus on mitigation and prevention of the COVID-19 pandemic and infodemic, infrastructural development, overcoming the digital divide and building the capacity of users to analyze information and fight the COVID-19 pandemic and infodemic. Partnerships were viewed as critical for sharing resource burdens and improving idea generation. Resource sharing was highlighted as a key survival strategy at a time when budgets had gone down because of commercial inactivity during the COVID-19 pandemic era. The participants supported partnership as a means of enabling libraries to overcome the constraints of the paywall when dealing with publishers and database vendors

Comment on what and how Libraries can contribute to the War against the COVID-19 Pandemic and Infodemic?

The participants acknowledged that libraries were key to the fight against the COVID-19 pandemic and infodemic because libraries provide access to reliable information. They concurred that libraries have always been at the forefront of providing verified information and also providing information literacy skills. The 33 participants indicated that they were willing to avail their knowledge and skills to train users with information literacy to counter misinformation about the COVID -19 pandemic. The strategies articulated by the participants included the continuous professional development of librarians, partnership with key stakeholders including WHO, governments, and other libraries, widening access to digital library services, knowledge sharing, documenting COVID -19 developments, repackaging information for the benefit of users, participating in national programs for disaster management and recovery, social intelligence, implementing government guidelines on hygienic practices and bolstering the capacity of digital library services. However, the key impediment to this idea relates to the digital divide as some libraries still operate physically and hence the need to conscientise the government and other key stakeholders on the need to support the digitization of all libraries.

The responses to the questions reveal that libraries were affected by the COVID-19 pandemic as evidenced by confirmation of closure of physical services in response to the national lockdown rules. The results reveal an

Table 5. Comments on what and how libraries can contribute to the war against COVID-19 pandemic and infodemic

Participant	Response
P,1	Libraries central to the fight against COVID-19 pandemic and infodemic
P,2	availing verified and accurate info, fight misinformation, repackaging materials into appropriate formats
P,3	Evidence Based Intervention for dissemination of information to the public. Providing Health care
P,5	Create knowledge sharing platforms that demystify the pandemic …promote research towards sustainable solutions
P,7	increase access to information about the pandemic and strategies to contain it…increase circulation on vaccination, creating awareness on the recommendations from WHO and CDC.
P,8	train citizens on how to access credible COVID-19 resources
P,9	provide their communities with accurate and timely information on the pandemic. …develop electronic services that provide convenience…
P,10	Participate in AFLIA activities to develop local content
P,12	Train librarians on the COVID -19 pandemic and infodemic
P,16	Providing links to verifiable sources of information
P,17	Libraries should lead in the verification of the authenticity of COVID-19 pandemic information
P,20	Provide digital library services
P,23	Documenting COVID -19 pandemic information
P,24	Embrace the new normal
P,26	Keeping track on social intelligence and social listening on COVID -19 pandemic and infodemic
P, 27	Disseminated correct and reliable information on COVID-19, counter infodemic by providing proven evidence on the pandemic. Stakeholders should be involved and Disaster recovery programs should be put in place in the event that disaster strikes.
P,28	Provide support to research and policy making on the COVID-19 pandemic and infodemic
P, 29 to 33	Migrate from paper-based Infor services to virtual services- digitisation

overwhelming concurrence from the participants that libraries have a role to play in curbing the spread of the pandemic. Furthermore, the responses give credence to the grandiose strides made by librarians in responding to the COVID-19 pandemic, for example, observing national and WHO guidelines, implementing health and safety measures, and providing digital access to users. The striking finding is that libraries survived the pandemic through providing innovative solutions to counteract the COVID-19 pandemic and infodemic and that they have proved their usefulness through the adaptation of digital technologies to continue providing services irrespective of time and distance. However, it is interesting to note that from the findings, the

34

COVID-19 pandemic has exposed the lacunae between those institutions that are technologically capable and those that are starved.

The responses to the questions show that ZIMLA needs to be extra proactive to attract more members and it is possible to use the COVID-19 pandemic and infodemic as an opportunity to engage its stakeholders including users, the government, and development partners to prove its worthiness and expand its membership base. Information and digital literacy skills serve as a basis for buttressing the indispensable roles of libraries in the era of information disorder. The library can serve as a formidable bulwark and frontier in the fight against COVID-19 pandemic and infodemic but broadening access to information literacy skills and provision of current awareness services. The library remains the "***Deus ex Machina***" in the war to combat the COVID -19 pandemic and infodemic considering its long-held tradition of information organization and dissemination and its survival through time and space.

FURTHER RESEARCH DIRECTIONS

The chapter has explored the experiences of confronting and utilizing Information hygiene practices in an era of Information disorder. It has highlighted how the COVID-19 pandemic and Infodemic present challenges and opportunities for information professionals to reaffirm their roles as indispensable players in the complex and dynamic information landscape. The chapter acknowledges the critical role of librarians as professionals of note in information management. The chapter also exposes the gap between libraries endowed with technological resources and those that are under-resourced. Further research should be conducted on how information hygienic practices can be incorporated into the Library and Information Science (LIS) practice.

CONCLUSION

The study established that libraries the world over had not been spared by the impact of the COVID-19 pandemic and infodemic. However, it is encouraging that library and information practitioners remain resolute and action-oriented as evidenced by their continued resilience and vigilance to arrest the COVID -19 pandemic and infodemic through strategic information dissemination. The findings reveal that librarians are a formidable force in the war against the COVID-19 pandemic and that through working within the national, global,

and professional framework they contribute meaningfully to the fight against the virus and its associated effects. The contributions of librarians can be the magic formula to arrest the scourge of COVID-19 pandemic and infodemic. Librarians should strengthen cooperation among themselves and other key stakeholders, including the government so that they actively participate as a united front in national programs to mitigate and prevent the COVID-19 pandemic and infodemic.

REFERENCES

Adepoju, P. (2020). Nigeria responds to COVID-19; the first case detected in sub-Saharan Africa. *Nature Medicine*, *26*(4), 444–448. doi:10.1038/d41591-020-00004-2 PMID:32161414

Bawden, D., & Robinson, L. (2020). Information overload: An introduction. In *Oxford Research Encyclopedia of Politics*. Oxford University Press. doi:10.1093/acrefore/9780190228637.013.1360

Bhalerao, A. K. (2015). Application and performance of Google Forms for online data collection and analysis: A case of North Eastern Region of India. *Indian Journal of Extension Education, 51*(3-4), 49-53.

Bode, L., & Vraga, E. K. (2018). See something, say something: Correction of global health misinformation on social media. *Health Communication*, *33*(9), 1131–1140. doi:10.1080/10410236.2017.1331312 PMID:28622038

Bojanic, I. (2021). *Information hygiene: How not to contribute to a culture of clutter*. https://gongos.com/thinking-post/information-hygiene-how-not-to-contribute-to-a-culture-of-clutter/

Burchell, K. (2015). Tasking the everyday: Where mobile and online communication take time. *Mobile Media & Communication*, *3*(1), 36–52. doi:10.1177/2050157914546711

Chisita, C. T. (2020). Libraries in the midst of the Coronavirus (COVID-19): Researchers experiences in dealing with the vexatious infodemic. *Library Hi Tech News*, *37*(6), 11–14. doi:10.1108/LHTN-03-2020-0022

Creswell, J. W., & Poth, C. N. (2016). Qualitative inquiry and research design: Choosing among five approaches. *Sage (Atlanta, Ga.)*.

Cucinotta, D., & Vanelli, M. (2020). WHO declares COVID-19 a pandemic. *Acta Bio Medica: Atenei Parmensis*, *91*(1), 157. PMID:32191675

Dahab, M., Van Zandvoort, K., Flasche, S., Warsame, A., Ratnayake, R., Favas, C., Spiegel, P. B., Waldman, R. J., & Checchi, F. (2020). COVID-19 control in low-income settings and displaced populations: What can realistically be done? *Conflict and Health*, *14*(1), 1–6. doi:10.118613031-020-00296-8 PMID:32754225

Dhir, M., & Midha, V. (2014). Overload, privacy settings, and discontinuation: A preliminary study of FaceBook users. *Proceedings of Special Interest Group on Health-Computer Interactions (SIGHCI'14)*. http://aisel.aisnet. org/ sighci2014/12

Durodolu, O. O., Ibenne, S. K., & Dube, T. V. (2021). New mental costumes: Leveraging ACRL's value of information frame in dealing with infodemics in a post-truth era. *College & Research Libraries News*, *82*(4), 175. doi:10.5860/crln.82.4.175

Edelman Trust Barometer. (2021). https://www.edelman.com/trust/2021-trust-barometer

Eppler, M. J., & Mengis, J. (2004, July). Side-effects of the e-society: The causes of information overload and possible countermeasures. In *Proceedings of IADIS international conference e-society* (*Vol. 2*, pp. 1119-1124). Academic Press.

Gruenwald, E., Antons, D., & Salge, T. (2020). *COVID-19 evidence navigator*. Institute for Technology and Innovation Management, RWTH Aachen University.

Haleem, A., Javaid, M., Khan, I. H., & Vaishya, R. (2020). Significant applications of big data in COVID-19 pandemic. *Indian Journal of Orthopaedics*, *54*(4), 526–528. doi:10.100743465-020-00129-z PMID:32382166

Himma-Kadakas, M. (2017). Alternative facts and fake news entering journalistic content production cycle. *Cosmopolitan Civil Societies: An Interdisciplinary Journal*, *9*(2), 25–41. doi:10.5130/ccs.v9i2.5469

Hunt, R. E., & Newman, R. G. (1997). Medical knowledge overload: A disturbing trend for physicians. *Health Care Management Review*, *22*(1), 70–75. doi:10.1097/00004010-199724000-00009 PMID:9058088

Igbinovia, M. O., Okuonghae, O., & Adebayo, J. O. (2020). Information literacy competence in curtailing fake news about the COVID-19 pandemic among undergraduates in Nigeria. *RSR. Reference Services Review*.

Jones, Q., Ravid, G., & Rafaeli, S. (2004). Information overload and the message dynamics of online interaction spaces: A theoretical model and empirical exploration. *Information Systems Research*, *15*(2), 194–210. doi:10.1287/isre.1040.0023

Karr-Wisniewski, P., & Lu, Y. (2010). When more is too much: Operationalizing technology overload and exploring its impact on knowledge worker productivity. *Computers in Human Behavior*, *26*(5), 1061–1072. doi:10.1016/j.chb.2010.03.008

Khaleel, I., Wimmer, B. C., Peterson, G. M., Zaidi, S. T. R., Roehrer, E., Cummings, E., & Lee, K. (2020). Health information overload among health consumers: A scoping review. *Patient Education and Counseling*, *103*(1), 15–32. doi:10.1016/j.pec.2019.08.008 PMID:31451363

Lancet Infectious Diseases. (2020). The COVID-19 infodemic. *The Lancet. Infectious Diseases*, *20*(8), 875. doi:10.1016/S1473-3099(20)30565-X PMID:32687807

LaRose, R., Connolly, R., Lee, H., Li, K., & Hales, K. D. (2014). Connection overload? A cross cultural study of the consequences of social media connection. *Information Systems Management*, *31*(1), 59–73. doi:10.1080/10580530.2014.854097

Levy, D. M. (2009). Information overload. In K. D. Himma & H. T. Tavani (Eds.), *The handbook of information and communication ethics* (pp. 497–516). Wiley.

Lone, S. A., & Ahmad, A. (2020). COVID-19 pandemic–an African perspective. *Emerging Microbes & Infections*, *9*(1), 1300–1308. doi:10.1080/22221751.2020.1775132 PMID:32458760

Mackworth-Young, C. R., Chingono, R., Mavodza, C., McHugh, G., Tembo, M., Chikwari, C. D., Weiss, H. A., Rusakaniko, S., Ruzario, S., Bernays, S., & Ferrand, R. A. (2021). Community perspectives on the COVID-19 response, Zimbabwe. *Bulletin of the World Health Organization*, *99*(2), 85–91. doi:10.2471/BLT.20.260224 PMID:33551502

Meyer, J. (1998). Information overload in marketing management. *Marketing Intelligence & Planning*, *16*(3), 200–209. doi:10.1108/02634509810217318

Mo Ibrahim Foundation. (2020). *COVID-19 in Africa: A call for coordinated governance, improved health structures and better data*. https://mo.ibrahim. foundation/news/2020/covid-19-africa-a-call-coordinated-governance-improved-health-structures-and-better-data

Mohammed, M., Sha'aban, A., Jatau, A. I., Yunusa, I., Isa, A. M., Wada, A. S., ... Ibrahim, B. (2021). Assessment of COVID-19 Information Overload among the General Public. *Journal of Racial and Ethnic Health Disparities*, 1–9. PMID:33469869

Nadirova, G (2021). *The need for information hygiene*. https://eurasian-research.org/publication/the-need-for-information-hygiene/

Naeem, S. B., & Bhatti, R. (2020). The Covid-19 'infodemic': A new front for information professionals. *Health Information and Libraries Journal*, *37*(3), 233–239. doi:10.1111/hir.12311 PMID:32533803

Oche, N. A., & Ogbu, K. N. (2020). Re-defining the roles of public libraries in the era of information explosion. *Library and Information Perspectives and Research, 2*(2), 74-85. https://credencepressltd.com/journal/uploads/archive/202116138895080310445792.pdf

Palen, L., & Anderson, K. M. (2016). Crisis informatics—New data for extraordinary times. *Science*, *353*(6296), 224–225. doi:10.1126cience.aag2579 PMID:27418492

Public health (COVID-19 prevention, containment and treatment) (national lockdown) (amendment) order (no. 5). (2020). *Government of Zimbabwe*. http://zimlii.org/zw/legislation/si/2020/99

Sochas, L., Channon, A. A., & Nam, S. (2017). Counting indirect crisis-related deaths in the context of a low-resilience health system: The case of maternal and neonatal health during the Ebola epidemic in Sierra Leone. *Health Policy and Planning*, *32*(suppl_3), iii32–iii39. doi:10.1093/heapol/czx108 PMID:29149310

Spinney, L. (2019). *In Congo, fighting a virus and a groundswell of fake news*. https://science.sciencemag.org/content/363/6424/213.fu

Stone, L. (2008). Continuous partial attention–not the same as multi-tasking. *Business Week, 24*. https://www.csmedia1.com/paseodelrey.org/continuous-partial-attention.pdf

Tennison, J. (2020). *COVID-19 requires information as personal hygiene*. https://tech.newstatesman.com/guest-opinion/covid-19-requires-information-hygiene

The International Federation of Library Associations and Institutions (IFLA). (n.d.). *How to Spot Fake News – COVID-19 Edition*. https://www.ifla.org/publications/node/93015

Waghre, P., & Seth, R. (2020). *Analysing digital platforms' responses to COVID-19 information disorder.* The Takshashila Institution. https://takshashila.org.in/wp-content/uploads/2020/06/COVID-19-Digital-Platforms-Response-to-Information-Disorder_17-Jun_Takshashila-Discussion-Document_v1.0.pdf

Walker, P. G., Whittaker, C., Watson, O. J., Baguelin, M., Winskill, P., Hamlet, A., Djafaara, B. A., Cucunubá, Z., Olivera Mesa, D., Green, W., Thompson, H., Nayagam, S., Ainslie, K. E. C., Bhatia, S., Bhatt, S., Boonyasiri, A., Boyd, O., Brazeau, N. F., Cattarino, L., ... Ghani, A. C. (2020). The impact of COVID-19 and strategies for mitigation and suppression in low-and middle-income countries. *Science*, *369*(6502), 413–422. doi:10.1126cience.abc0035 PMID:32532802

Wang, C. J., Ng, C. Y., & Brook, R. H. (2020). Response to COVID-19 in Taiwan: Big data analytics, new technology, and proactive testing. *Journal of the American Medical Association*. Advance online publication.

World Economic Forum. (2020). *World Economic Forum: Why Sub-Saharan Africa needs a unique response to COVID-19.* https://www.weforum.org/agenda/2020/03/why-sub-saharan-africa-needs-a-unique-response-to-covid-19/

Wurman, R. S. (2001). *Information Anxiety2*. Macmillan Publishing.

Zarocostas, J. (2009). World health organization declares A (H1N1) influenza pandemic. *BMJ: British Medical Journal, 338*. doi:10.1136/bmj.b2425

KEY TERMS AND DEFINITIONS

Continuous Partial Attention: The condition in which the human mind is constantly scanning for information in an effort not to miss anything.

Information Hygiene: Vigilant assessment of the information that one is consuming and disseminating. It also refers to the strategic sanitization of information before sharing. It is an anti-thesis of the social media obsession with sharing.

Information Overload: The state of being overawed by the amount of data presented for one's attention or processing. It also refers to a persistent blizzard of data from many sources that is characteristic of the post-truth era.

Coroinfodeluge: The overwhelming production and dissemination of COVID-19 information viz-a-viz the limited capacity of the human mind to make sense of it and determine its trustworthiness

Chapter 3

Archives to Warrant Hygiene in the Information Housed in a Repository

ABSTRACT

The study investigated a framework that archival institutions could follow in warranting cleanliness in the information housed in a repository for their end users. Archival materials are used by many researchers for different purposes, and some of these people write history books, some write manuscripts for reality movies, novels, and many other kinds of publications. The study used the literature review to investigate a framework that archival institutions may follow in warranting cleanliness in the information they inherit or kept. There are no means for archival institutions to address the authenticity of their records before they are adopted in custodies for permanent preservation. The study recommends that archival institutions come up with archival diplomatic strategies to authenticate the records before keeping for secondary users in the general public. The study also proposes a framework for authenticating archival materials.

INTRODUCTION AND BACKGROUND

Cleanliness in archival materials cannot be overemphasised. It is required to ensure that those who use archival materials to transfer knowledge are not eventually misled. End users of archival materials also use information to

transfer knowledge to the general public or even the entire universe. So, it is very imperative that information housed is taken through a scrutiny for authentication before it is used to inform the public and make them believe what is not incorrectly. For example, information from different organisations and government bodies housed in the archival repository is used by researchers. This is used for secondary sources publications such as history books that gives context to specific issues, filmscript writers and novelists, to list only a few. This in itself may contribute much to the public mindset and believes. Inauthentic information may even lead the public to negative actions against particular people or bodies alleged to be involved in unpopular situations.

Archival cleanliness has to do with the application of archival diplomatics. According to Duranti (2010a), it originated as a science in France to ascertain that records, both inside custody and those that are still to be submitted, were authentic and original "to attest to patrimonial rights" of users. This science was eventually used in many disciplines such as law, history and philosophy. In legal proceedings lawyers used it in their resolution to disputes. In history it was used by historians in their records interpretation. Editors used it in their reviews for manuscripts about publication of the past incidents or practices (Duranti 2010a). According to Duranti (2010a), the concept of "diplomatics"

comes from the Latin term diploma – derived from the Greek words … meaning I fold, and … doubled or folded – which was used in ancient Rome to refer to documents written on two tablets attached with a hinge, and later to any recorded deed, and it means "about records." However, over the centuries, its focus has expanded from its original concern with medieval deeds to an all-encompassing study of any document produced in the usual and ordinary course of activity as a means for it and a residue of it.

It is very imperative that archival institutions make assurance that their collections are in order in terms of authenticity and trustworthiness. This may only be possible with the application of archival diplomatics techniques or strategies. Archival diplomatics has much to do with records originality, authenticity and Duranti (2010a) elaborates that it is categorised into classic and modern in which classic is more focused on the evidential value of records and the modern diplomatics focuses on records in association to their metadata. Duranti (2010a) explains the origin of the concept of diplomatics in association with records as follows:

The history of diplomatics is directly linked to the so-called "diplomatic war" (bella diplomatica), judicial controversies over political or religious claims based on records of disputed origin, which, in the seventeenth century, especially in Germany and France, assumed a doctrinal character and prepared the ground for a scientific debate between the Benedictines of the Congregation of Saint-Maur in France and the Jesuits organized by Jean Bolland in a scientific society in Antwerp (Bollandists). In 1675, the second volume of the Acta Sanctorum, an analysis of the lives of saints published in several tomes by the Bollandists, was released, with an introduction by Daniel Van Papenbroeck which outlined the general principles and methods for assessing the authenticity of medieval records. In the text, the author, applying his analysis to the records of Frankish kings, declared a diploma issued by Dagobert I to be a forgery, thereby discrediting all Merovingian diplomas, on which most patrimonial rights of the French Benedictines rested.

Evaluating a record's content to ascertain authenticity and truthfulness is very important, since some of the records may have been falsified during their lifespan at some stage (Gonzalez, 2020).

CLEANLINESS IN ARCHIVAL MATERIALS

Archival information is the materials housed in the repository that need to be clean at all times otherwise they are not ready for use or access to end users. Failure to do this it is as good as giving people food that is not healthy as they are either rotten or poisoned. There is one known strategy to clean the archival information known as archival diplomatics. According to Skemer (1989), "diplomatics is an auxiliary science of history created by the French monk Dom Jean Mabillon in 1681 to establish the authenticity of medieval charters. It played a major role in legitimising archival documentation for historical research and in education and work". This was also supported by Gonzalez (2020). The Society of American Archivists (2021) defines diplomatics as "the study of the creation, form, and transmission of records, and their relationship to the facts represented in them and to their creator, in order to identify, evaluate, and communicate their nature and authenticity". Gonzalez (2020) also shows that archival diplomatics started to be relised long ago around the 17th century. Gonzalez (2020) also allude that the father of archival diplomatics science is Mabillion in his book written in 1681. Archival diplomatics "was established by the French Benedictine Monk Dom

44

Jean Mabillon (1632-1707) in his book De re diplomatica libri VI, which he wrote in 1681" (Gonzalez, 2020). This was also reported by Society of American Archivists (2021). Gonzalez (2020) further underscores that

Mabillon was actually framing a rebuttal against the claim made by the Jesuit Daniel van Papenbroeck of Antwerp that records, namely early grants of privileges, from Dagobert I, king of the Franks (629-634), to the Abbey of Saint-Germain-des-Pres, where Mabillon himself was based, were untrustworthy. Whilst Mabillon admitted that some of the documentation was indeed false, he argued that not all the records should be dismissed or devalued and, rather, that it was necessary to apply the system that he had devised in order to separate the forgeries from those which were authentic and were what they purported to be.

Archival diplomatics plays an important role in identifying value of records for accounting, legal and other related matters to ascertain issues such as forgeries and be rest assured of its authenticity (Skemer, 1989; Gonzalez, 2020). Archival diplomatics may be categorised into classic and modern diplomatics, to which Gonzalez (2020) named pre-modern and modern archival diplomatics to study modern and pre-modern records. Classic diplomatics uses the ancient strategies or methods used in the past during 17s and 20s to assess "medieval charters, instruments and deeds" (Duranti, 2010a). The Modern diplomatics is an improvement from the classic diplomatics to study cleanliness of all records in their "modern and contemporary" form (Duranti, 2010a). Classic diplomatics sees records as documents containing information in a particular medium, providing evidence with facts created following an approved procedure with faith and credit (Paoli, 1942). In classic diplomatics records should be documented in a specific form and should provide legal results and as such it should provide legal knowledge (Duranti, 2010a; De Boüard, 1929; Giry, 1964). Modern diplomatics has to do with records that were kept aside after creation or receipt for a particular action in the course of functional activities. Generally, modern diplomatics covers all records created for various reasons during functional activities. It scrutinises the relationship of records with presented facts, their creators and other metadata issues to identify their truthfulness and authenticity through evaluation (Duranti, 1998; Carucci, 1987; Duranti, 2010a). Gonzalez (2020) elaborates:

At its core, diplomatics is about evaluating the authenticity and reliability of the record that you are dealing with. It's also a great way to recognise

45

the characteristics of the record before you. This means that you can learn about the form of the record from the paper used, the wax seals attached to it, and even signatures present. We can of course date documents using our palaeographical skills but diplomatics can also inform us about the provenance of the records we research.

Overall, both classic and modern archival diplomatics are concern with assessing or investigating about whether the records are truthful by their nature from their origin. In the assessment, archival diplomatists may need to look at what happened to the records in the past centuries on the records to establish trustworthiness for those that are already created and those that are still to be created in future by applying both prospective and retrospective approaches. Classic diplomatics focuses on trustworthiness of records as related to their authenticity, which means authentic records are trustworthy. Authenticity is determined based on the correct metadata attached to the records; in classic diplomatics, as determined by the practice of the period of creating such records (Duranti, 1998). Modern diplomatics target to determine trustworthiness of the records from the time they were created in the past centuries throughout the life cycle to the time they were preserved in an archival repository. The modern diplomatics is used to assess records trustworthiness based on the characteristics of records, namely "reliability, authenticity, accuracy and authentication" (Duranti, 2010a). Gonzalez (2020) also supports that in archival deplomatics records characteristics, content and authenticity are evaluated using internal and external criteria of evaluation pertaining to its changes in the characteristics such as handwriting, style and composition fashion, to list only few. In other words, a record's original metadata should not change for it to be considered authentic, reliable, truthful and usable.

In assessing reliability, records are deemed truthful based on the content satisfaction. The assessment will be looking at the completeness of the records content. The records must meet all the legal and administrative requirements as per the system. Other matters considered during assessment are whether the record may be used for the purpose of achieving its goals and how it was controlled and kept throughout its life cycle, competency of the creator pertaining to its creation and issuing and whether the creator was authorised to do so. Overall reliability is determined by the creator and manager of such record during its stay and maintenance in the organisation (Duranti, 2010a).

Authenticity has to do with trusted records based on the condition that such record was never altered, corrupted with or tampered with in any way,

46

with or without any intention. In other words, the record must be proven to have been protected and its integrity maintained from the time it was created to the time when it is supposed to be utilised. Maintaining a record's integrity means there should be no changes in its characteristics in all categories of metadata, such as author, address, creation date, title, classification number and many more (Duranti, 2010a). According to MacNeil (2004) and Duranti and Jansen (2011), records are considered authentic once it is proven that there was good maintenance of their integrity in the past from the time they were created.

However, integrity alone may not certify the record authentic since there are many other characteristics of records that also need to be proven original or not changed and that is overall identity of the records. The records identity needs to be proven that no changes were made to the record since its origin (Duranti & Jansen, 2011). Duranti and Jansen (2011) further explain:

The identity of a digital record comprises the whole of the distinguishing attributes that together uniquely characterize it and differentiate it from other records. In order to prove the authenticity of a digital record, it is necessary to establish its continuing identity and demonstrate its integrity. Identity allows the examiner to differentiate one record from another; to determine the who, what, where, when, why, and to establish the degree of perfection of the record, that is, whether it is a draft, an original or a copy and, if the latter, what type of copy and what version of it. From a diplomatic perspective, the identity of a record is revealed by its documentary form or presentation.

The records documentation is done following certain rules that have both intrinsic and extrinsic elements. These elements describe how the external and internal part of the records should appear. The intrinsic element is about the content of the record in terms of its structure and more other factors – the completeness of the record. The extrinsic element provides a description about the external appearance of the record – indications that it was perfectly created and maintained (Duranti & Jansen, 2011). Duranti & Jansen (2011) further elaborate that the element of records intrinsic help to prove completeness of the record while extrinsic provide a prove that the records was perfectly created and maintained. Extrinsic elements include "general characteristics, like text, graphics, images or sound, and specific characteristics, such as fonts, colours, hyperlinks, layouts, and resolution/scale/sample rate and in electronic signatures, digital time stamps, and special signs" (Duranti & Jansen, 2011). Examples of intrinsic elements are "date, superscription, name of the author

in the upper part of the record, e-mail header, subject, salutation, preamble, subscription" (Duranti & Jansen, 2011).

A record's authenticity is assessed using these elements to establish whether it delivers the same message that it was intended when it was created. The record's authenticity does not consider changes in the records format or medium as long as there is no evidence of alteration, changes, tempering or corruptness. There should be evidence that the record was well or satisfactorily maintained throughout its life from the time of creation. During maintenance, records must be secured and maintained in filing custody and when it moves through the hands of different users for administration and related purposes. During this period organisations must ensure availability of security measures and maintenance strategies (Duranti, 2010a).

Accuracy is one of the key elements or characteristics of records that need to be maintained to ensure that records are trusted and can be used with confidence in decision making and problem solving. Records that are accurate should be true, exact, precise and complete as determined from the time they were created. If a record lacks one of these elements it is inaccurate and not trustworthy. The accuracy of records may be affected during the records movement or transmission from one user to another and during storage administration. In regard to electronic records, this may also happen during records migration to a new system when organisations upgrade their system due to arrival of new technology. It is the responsibility of the person in possession of the records to ensure that records are secured and protected against any peril, be it the creator, the user or the people responsible for storage and preservation of such records (Duranti, 2010a). This should be addressed as a policy matter.

Finally, records will need to be authenticated to ensure that people are rest assured that they can rely on the information they contain. This is done by appointed archives and records management experts who certify that records are authentic after checking all required elements. The person will finally be required to declare such records as reliable and authentic by means of putting a sign like stamp or any other means (Duranti, 2010a).

Assessing the Cleanliness of Archival Materials or Records

In the assessment of cleanliness of the records materials, different diplomatic strategies is applied, such as classic and/or modern diplomatics methods.

48

Classic diplomatics is more preferable because it provides rigorous and systematic assessment to the records in different directions, whether from general to specific or specific to general on the available information, vice versa (Duranti, 2010b). Duranti (2010b) further explains:

The early diplomatists first separated the records from the world and then put them into relation trying to understand the world through the record. Thus, they began analyzing the formal elements of the records and, from the results of such analysis, they reached conclusions about procedures, persons, acts, and contexts. They firmly believed in the possibility of discovering a consistent, underlying truth about the nature of a record and of the act producing it through the use of a scientific method for analyzing its various components.

PAMA (2019) underscore that archival diplomatics is discharged by closely analysing "the record in question, interrogating and cross-referencing different aspects of it with regard to its purported context of creation and use". In discharging archival diplomatics records is evaluated based on its characteristics, contextual background and authenticity considering changes in several things including handwriting and writing style with metadata description on its life experience and expectancy. The evaluation criteria consider both internal and external account of involved issues (Gonzalez, 2020). PAMA (2019) further states that this is "to ensure that we can say with some degree of certainty that the record is what it appears to be, and that it was created or used at a certain time by a known creator". During archival diplomatics the elements of the records are analysed by abstracting and systematising the details. The intention is to record important attributes that are important and may be used to identify a record's context and history from the time it was created and documented. Diplomatist in the process decontextualize and generalize records attributes for records identification and evaluation. This process may be applied to different records, including those that were created many centuries ago. Archival diplomatics will give archival institutions the ability to recognise authenticity in records created by different administrative institutions for different purposes using different systems (MacNeil, 2004; Duranti, 2010b). Besides, archival institutions also need to come up with a proactive strategy to ensure that they take control over records management systems in the administrative institutions by assessing and approving any system adopted for records management before implementation or utilization of the system in place. This is also applicable

to conversion of records from one format and medium to another. This has long been the practice in most countries (Duranti, 2010b).

PAMA (2019) shows that diplomatic review includes "an examination of applicable physical aspects of the record". In archival diplomatics records are assessed to identify provenance in the characteristics such as authenticity and reliability. Some organisations have policies and procedures that regulate creation of records, its management to the end when it is disposed of.. Policies may stipulate the kinds of paper, wax seal and nature of signature when it comes to creation of records and these may be used in the evaluation of records during archival diplomatics to ascertain tempering in the records from the time it was created under certain regulations in its primary administrative organisation (Gonzalez, 2020). In a way archival diplomatics team will be trying to verify falsification, alteration, concealment, addition and many other forms of tampering in the records. PAMA (2016) further indicates some of the issues that archival diplomatists will be looking for in the assessment of records as "base material like paper, parchment, glass, plastic; writing mediums like ink, pencil, pencil crayon, marker; language and syntax; fonts, scripts, and punctuation; layout of record; seals, crests, and stamps; signatures; and damage and marks of use". Gonzalez (2020) elaborates that diplomatists should identify and separate authentic records from those with forgeries and decide whether to reject them or keep them separately labelled as such to show that they are not reliable. Users or researchers should also be advised about the authenticity of records they intend to use. This may assist researchers to avoid spreading authenticity vested on them. This may assist researchers to avoid spreading incorrect information to the ordinary people in the public through publications that were dependent on unauthentic records (Gonzalez, 2020).

Examining content is important and the record may have textual inaccuracies, such as erroneous laws or events that did not take place when the documents claim them to have done so. This also includes dates and the individuals mentioned, which we can use to determine the legitimacy of the record's content. We may also want to refer to other records to corroborate a document's reliability. Equally as important is the way in which the record was manufactured, as well as the material it was made from and the style of handwriting used (medievalists and early modernists will know that using those palaeography skills is a very helpful way of dating documents!) (Gonzalez, 2020).

50

It is important to take note that people who commit record forgery in the records can be skilled and competent employees working with records on a daily basis who can do it in a way that is convincing to the next person reading it (Gonzalez, 2020):

The creation of false documents was common in Europe during the Middle Ages and scribes sometimes reproduced records that imitated the original. Records would have also been tampered with. By looking out for these key attributes, the historian will avoid being hoodwinked and have the right tools to uncover the document's deepest and darkest secrets (Gonzalez 2020).

Historians and archivists have benefited a lot from the archival diplomatics methodology framed by Mabillion for many years for legitimate archival records authentication, especially European archivists. Archival diplomatics may be applied to all kinds of records in different forms or medium. Archival diplomatics play an important role in enabling both archivists and historians to ensure authenticity in the materials housed in their archival custodies. Archival practice without archival diplomatics may leave archivists providing misleading information to their users or clients since this may result in a lot more publications sharing falsified or untruthful information that in turn lead to wrong decisions and problem solving (Gonzalez, 2020).

Growth in the use of computer technology for execution of business activities has necessitated digital record forensics (Duranti & Jansen, 2011). Many records are created and maintained in different administrative organisation by officers who do not always follow policies and procedures or legislative mandates. This has necessitated the need to understand how these records have been handled and maintained during the course of the business process to ascertain their reliability and truthfulness in the records, since they will eventually be used for different business purposes including accountability, decision making and problem solving, to list only few. Records may also be verified using digital record forensics (Jansen 2010; Duranti & Jansen, 2011). The organisations need to engage in a scientific approach to digital record forensics that rigorously applies appropriate theory with concepts that are consistent with the records (Edwards 2009; Duranti & Jansen, 2011).

Archival diplomatics emphasizes the importance of identifying records among other kinds of information, because they are considered, in civil law countries, the "perfect" form of proof of actions and transactions, and, in common law

countries, an exception to the hearsay rule, which precludes admissibility of any other kind of documents as evidence (Duranti & Jansen, 2011).

PAMA (2019) provides six categories of focus for the researcher during evaluation of the records context, such as "socio-historical context, juridical-administrative context, Procedural context, provenancial context, documentary context and technological context". Socio-historical context is about assessment based on the records creator's environment within which s/hewas located and discharged functions, and the framework applied. Judicial-administrative context is the platform to evaluate "the legal and broader organizational system in which the creating body belonged" (PAMA, 2019). Provenance context addresses evaluation of the "mandate, structure, and function of the record-creating body". Procedural context has to do with evaluation of records based on the actions and procedures followed during the process of creating the records. Documentary context has to do with evaluation of records focusing on the way in which records relate to one another or among each other as creator created them. Technological context is used to evaluate records based on "the technical aspects of the record creation system", These technical aspects including records binding and reproduction by means of photocopy and many more others (PAMA, 2019).

Reviewing the physical aspects of the record in conjunction with the relevant context(s) allows the archivist to develop a hypothesis as to the identity, authenticity, history of use, and ultimately, the archival value of the record (PAMA 2019).

According to Duranti and Jansen (2011), archival diplomatics is interested in the following, as in the InterPARES research project (1998–2012) and presented verbatim here:

1) a stable content and a fixed form, meaning that the entity's content must be stored so that it remains complete and unaltered, and its message can be rendered with the same documentary form or presentation it had when first set aside;
2) explicit linkages to other records within or outside the digital system, through a classification code or other unique identifier;
3) an identifiable legal-administrative, provenancial, and procedural context;
4) an identifiable author (i.e. the person or organization issuing the record), addressee (i.e., the person or organization for whom the record is

52

       intended), and writer (i.e. the person responsible for the articulation of content);

5)   an action, in which the record participates or which the record supports either procedurally or as part of the decision making process ; and

6)   a medium, that is a support or carrier to which the record is affixed (Duranti & Thibodeau, 2006; MacNeil, 2000).

PROBLEM STATEMENT

This study emanated from the assumption that most of the archival materials housed in different archival repositories or institutions are not guaranteed to be hygienic or clean. Archival professionals are not in a good position to establish whether the records housed in their custody are free from forgery and fraud. It is not known whether authenticity in such records were duly maintained from the time they were created until they were transferred to archival repository for public consumption. If some of these important collections, which also serve as the memory of the nation, are not truthful or authentic, they may result in misleading the end users such as researchers and historians and many more others into publishing material containing errors. These publications can be used in schools or tertiary education. Later information, such as that from oral history, can reveal this inauthenticity, to the embarrassment of the authors. This kind of information materials are very important, and it is significant to ascertain its authenticity because it may mislead and misinform the community and public at large. For instance, historians and researchers will eventually find themselves publishing books, articles and other publications with findings from these materials to be read by the general public in the entire world. It may be a very painful thing to discover in future that certain publications were not truthful based on other additional information authenticating the already available untruthful information such as those from oral history. It is very important to understand that some of the publications from same materials may be used for teaching in schools at different levels from primary to tertiary and young generation may grow with wrong historical knowledge for example.

    Evaluation of the records content to ascertain authenticity and truthfulness is very important since some of the records may have experienced falsification during their life span (Gonzalez, 2020). PAMA (2019) underscore that archivists experience several difficulties in understanding characteristics in certain records. In some instances, they come across records that appears to

be forged. Some of the records that are copies appears to be as if they are original. For instance, some records may have been duplicated in similar colours. In some instances, some of the records provide information that are contradictory, especially metadata details. Some of the questionable records do not have dates or are labelled with the dates that are wrong, are mislabelled or lack labels. Records that lacks labels or that are being unlabelled are not trusted. Some of the records does not have paperwork attached to them, popularly known as "orphaned materials" (PAMA, 2019).

PURPOSE AND OBJECTIVES

The purpose of the study is to investigate a framework that archival institutions may follow in warranting the cleanliness or hygiene of the information housed in an archival repository for their end users.

METHODOLOGY

This qualitative study relied on the literature review to study a framework that archival institutions may follow in warranting cleanliness in the information housed in the repository for their end users. Literature was searched using Google search engine. In searching the literature through google the researcher was able to connect to other websites, databases and or hosts for articles and books. The keywords used for searching of the literature includes Archives, warrant cleanliness, information cleanliness, housed archival materials, archives repository. These keywords were able to yield thousands of literatures from different host sources with key title and summary. The researcher was able to save time by first going through the summery of each of the relevant titles to understand relevancy in the content of the article identified by the search engine. This enabled the research to only open those search results that sound to be relevant from the summery to start reading deeper into the content and present ideas in the paper. The method was safe and convenient. All the sources that where reviewed and cited in the chapter were duly cited in-text reference and listed in the lists of references at the end of the chapter. In other words, the researcher used the snowball to locate the sources since some of the sources were located within the list of references for the articles accessed.

DISCUSSION AND RECOMMENDATIONS

A lot of literature reviewed in this study speaks the same language regarding cleanliness or hygiene in the archival materials and in this section the author is just giving the interpretation and discussion based on the information reviewed from different sources. This includes sources such as Gonzalez (2020), Duranti (2010a), Duranti and Jansen (2011), PAMA (2019), Jansen (2010), to list only few. Archival materials are indeed very valuable and should be treated as such, but for them to serve the purpose purposively they need to be hygiene at all the times before end-users may approach them or read the information they contained. The archival repository may remain up to date with all the materials available and accessible to every user but if the archival materials are not clean in terms of the information is a problem and a very serious national disaster. This is because the nation will continue remain fed up with untruthful and misleading information. Information that is not clean and or that are forged may cause unnecessary conflicts and hatters among community members. In some instances, lead the researchers and historians who uses archival materials as their population reporting untruthful, inaccurate, incomplete and questionable findings. The other sad part is that some of this information published in different books may end up being used to teach students at schools about background to their country and their heritage generally. It is a pity to find that information hygiene is rarely practised in many countries, which is a cause for concern that should be a worrying factor. Institutions responsible for housing archival materials should be worried about to know about the authenticity, completeness, accuracy and general integrity of the information materials before they can archive, ideally by employing a qualified records forensic specialist. Again, even the organisations or institutions responsible for creation of records, especially records with enduring value are supposed to come up with strategies. They are also responsible for the proper management of such records before transfer to archives such as putting and implementing appropriate security measures and policies and procedures in place to ensure that records are secure at all times. Records creating institution may also need to have someone qualified or trained to play a role of records forensic specialist. This specialist may take responsibility to certify authenticity of the records from time to time, especially during the time when certain records are supposed to be used for resolving critical issues or make decision, solving problem, using it as evidence for investigations and when it is the time for records to exit the institution

for archiving. This may reduce the risk of feeding archival repositories with untruthful information materials. For public bodies, this could easily be enforced by the national archives for the public bodies in a form of developing mandatory policies and procedures to be followed by everyone responsible for administration and management of records. It is also the responsibility of the organisations to ensure that these guidelines are implemented and followed as stipulated. Otherwise, guidelines without implementation or enforcement are just fruitless and wasteful since time was used in creating them and time is money. Archival institutions as a watchdog should be very worried about how records are managed and taken care of on the ground down in the institutions. The same should apply to the situation in which records are not utilized. Archives should proactively ensure the hygiene of their collections and take a fore step to advocate for their collection, otherwise they will remain irrelevant and useless to the community. In their advocacy they will then need to guarantee hygiene in their information to the clients they targeting to serve.

There are different means to which both archives and records creating institutions may apply to ensure hygiene in their archival information. This includes archival diplomatics and records forensic. The national archive or archival institution may enforce a rule to creating institutions to conduct records forensic always when the records are supposed to be used for different reasons, especially terminated or non-active and semi-active records. This will assist in ascertaining authenticity and truthfulness in the records before applying the information to their projects. Duranti (2010a) proposes two categories of archival diplomatics, which is modern and classic diplomatics. In this instance classic diplomatics is applied to records that are long in existence by checking different contexts relating to different records as discussed in the literature. Then the modern diplomatics is applied to records that are just created or those still to be created through policies and procedures as well as security and safety measures against any peril that may affect them. In a way this will assist archives in ensuring cleanliness in their archival materials and serve their clients with information that is free from forgeries and misleading intentions. The archival records need to be kept original and truthful from the time they were created.

Proposed Framework

It is based on the literature reviewed and information presented under the section for discussion and recommendations that this study proposes a step-by-step framework for archives to use to ensure hygiene in the information they house in their archival repository as illustrated in Figure 1. The framework aims to provide step by step guideline to archivists and records manager for the proper approach for the implementation of strategies or methodologies for ensuring or warranting hygiene in the information housed in the repository. The framework in Figure 1, is best presented based on the labelling provided, which is A, B and C. To begin with, at point A the framework illustrates the records creating point at the organisational level at which records are created, used for administrative purposes (such as business decisions, investigation of maladministration, responding to clients, providing information to citizens and responding to audit queries and processes) and eventually disposed of in a form of transfer to archives repositories. At this point records are also utilized for different administrative purposes such as pursiness decisions and transactions accountabilities, investigation of maladministration, responding to clients and also providing access to information to the citizens and also responding to audit queries and processes. All these activities need authentic and truthful records and officials in charge they need to ascertain hygiene in the information they provide to different stakeholder for different activities relating to business and personal matters. So, institutions may need to create the function and expert for records forensic before utilization for any critical business activities. At the same time Archival institutions may also need to take charge with the provision of guidelines and enforcing complains to these guidelines as mandates. This is known as modern diplomatics in which archival institutions becomes proactive and take charge and control before the records are affected by forgery and fraud. Introduction of guidelines will also need to be followed up with training, resourcing and inspection to be sure that implementation happen as expected.

In discharging modern diplomatics, archival institutions aim to maintain all records contexts in their entirety This will include maintenance of socio-historical context, juridical-administrative context, procedural context, provenance context, documentary context and technological contexts. This may simplify their task when it comes to discharging classic diplomatics strategies in item B in the figure 1. Opposite to modern diplomatics in which contextual condition of records is maintained and changes in the characteristics

Figure 1. A framework for archives to warrant hygiene in information housed in a repository
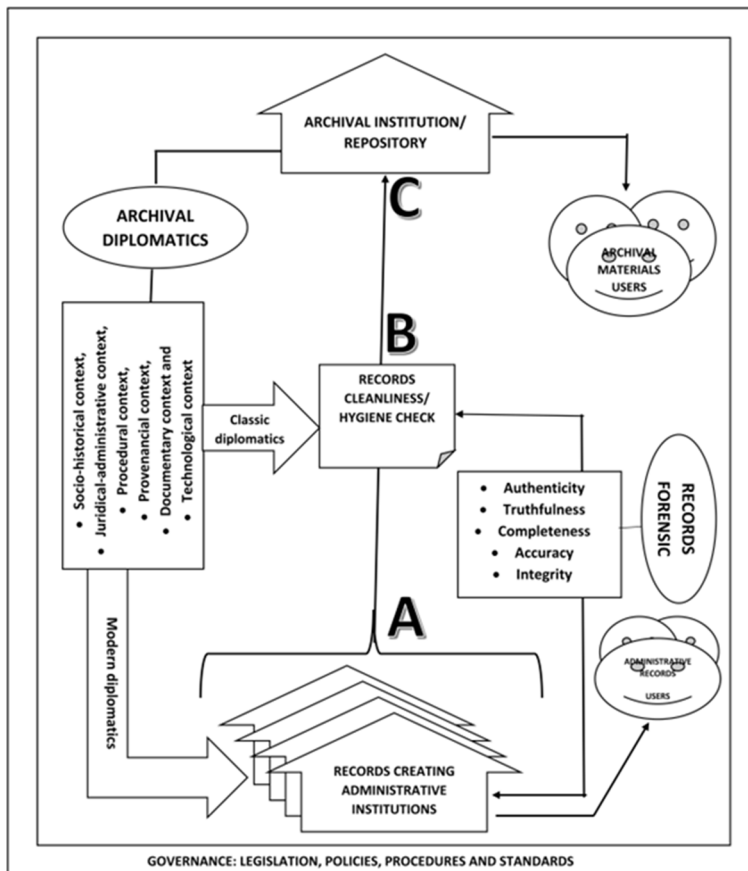
is prevented, in Classic diplomatics the same kinds of context are investigated. This is done with the intention to find out whether the original or real context of the records has never changed or tempered with in any way during the records life cycle. This is because many things happen during the life of a record, as with human beings. These incidents are sometimes good and at times bad. Depending on the nature of incidents records are either affected positively or negatively. The negative part is that some characteristics of some of the records may be changed, intentionally or unintentionally. The intentional effects may be due to direct intention to change some of the information or metadata related to the records so that certain issues against certain people becomes invalid. In some instances, this may happen without any intention like

58

due to poor records handling, ineffective security measures against different perils or hazards. Whether intentional or unintentional the end results are that the record is no longer authentic due to inaccuracies and or incompleteness. Using such records may affect the community as end-users of the information contained since some records may provide information that lead or left users with unanswered questions as shown in Figure 1. Citizens will always expect to be fed with reliable information that is truthful, authentic and complete, and for their different purposes, since besides this they may finally led astray or providing the unreliable information to the third party with confidence.

Moreover, consideration of records hygiene by the archives has two levels or is double barrel. This is during or before creation and the second level is during the records transfer to archives. This implies that the first level is about controlling the record-creating institution to keep and maintain hygiene in the records they create. The delegation in the first level should be done through legislation, policies and procedures and standards with delegation of the responsibility for records forensic. At the second level, is when the records are to be transferred to archive repository in which they should be checked for authenticity to ensure cleanliness before they reach the clients or end-users. This will give the records end users confidence in the correctness and truthfulness of the records and information in archival custody. The archives may also need to be transparent to their clients about the efforts to ensure hygiene in their archival information and where possible they may share the information through a schematic flow chart and display on their notice board for clients. This may certainly confidence on the clients pertaining to their sources of information.

FURTHER RESEARCH DIRECTIONS

This study was about archives to warrant hygiene in the information housed in a repository. There is a need for deeper studies that may focus on how archival institutions may ascertain hygiene in the information taken into their custody to avoid misleading users for different reasons including research and authorship of different publications.

CONCLUDING REMARKS

To this end it shows very clear that ensuring hygiene in records and/or archival material is not a simple thing. It involves a very complicated process making up of a lot of activities. Besides activities there are lot of things or contexts that need to be verified. One may also realise that verifying each of those context elements may not be that easy. Some of the situations or context may need to be verified using another information that may also found to be difficult to access or find. One best way for the archives to conquer in maintaining hygiene in archival materials may be to deal with use classic diplomatics at the start and going forward put more of their efforts on the modern diplomatics so that when the records are moved to classic during transfer to archive repository for preservation likelihood of forgery and falsification is minimal or non-existence. It may be the best decision for the public archives to initiate and maintain the function of archival diplomatics and records forensic and not only about the digital records but also other formats of records in different formats and medium such as paper-based, audio cassettes, audiovisual cassettes, compact discs, digital video disc and to list only few. It is hoped that the framework presented in figure 1 will assist archives and records management institutions in improving hygiene or cleanliness in their records, especial archival records with enduring value.

REFERENCES

Carucci, P. (1987). *Il documento contemporaneo*. La Nuova Italia Scientifica.

De Boüard, A. (1929). *Diplomatique Générale*. Editions Auguste Piscard.

Duranti, L. (1998). *Diplomatics: New uses for an old science*. Scarecrow Press.

Duranti, L. (2010a). Diplomatics. In Encyclopedia of Library and Information Sciences (3rd ed.). doi:10.1081/E-ELIS3-120043454

Duranti, L. (2010b). Concepts and principles for the management of electronic records, or records management theory is archival diplomatics. *Records Management Journal*, *20*(1), 78–95. doi:10.1108/09565691011039852

Duranti, L., & Jansen, A. (2011). Authenticity of digital records: An archival diplomatics framework for digital forensics. *Conference: ECIME*. https://www. researchgate.net/publication/290042000_Authenticity_of_digital_records_ An_archival_diplomatics_framework_for_digital_forensics

Duranti, L., & Thibodeau, K. (2006). The concept of record in interactive, experiential and dynamic environments: The View of InterPARES. *Archival Science*, *6*(1), 13–68. doi:10.100710502-006-9021-7

Giry, A. (1964). *Manuel de diplomatique: Diplomes et chartes Chronologie technique: Eléments critiques et parties constitutives de la teneur des chartes Les chancelleries; Les actes privés.* Academic Press.

Gonzalez, D. M. (2020). *Tackling the Archive: Understanding archival diplomatics.* https://www.epoch-magazine.com/post/tackling-the-archive-understanding-archival-diplomatics

Jansen, A. (2010). Digital records forensics: Ensuring authenticity and trustworthiness of evidence over time. In *Proceedings of the Fifth International Workshop on Systematic Approaches to Digital Forensic Engineering* (pp. 84-88). IEEE.

MacNeil, H. (2000). Providing grounds for trust: Developing conceptual requirements for the long-term preservation of authentic electronic records. *Archivaria*, *50*, 52–78.

MacNeil, H. (2004). Contemporary archival diplomatics as a method of inquiry: Lessons learned from two research projects. *Archival Science*, *4*(3-4), 199–232. doi:10.100710502-005-2592-x

Paoli, C. (1942). *Diplomatica* (2nd ed.). Sansoni.

Peel Art Gallery, Museum and Archives (PAMA). (2019). *The archivist as detective: The use of "diplomatics" in a municipal archive.* https:// peelarchivesblog.com/2019/05/30/the-archivist-as-detective-the-use-of-diplomatics-in-a-municipal-archive/

Skemer, D. C. (1989). Diplomatics and archives. *The American Archivist*, *52*(3), 376–382. doi:10.17723/aarc.52.3.0700428561660154

Society of American Archivists. (2021). *Diplomatics.* https://dictionary. archivists.org/entry/diplomatics.html

KEY TERMS AND DEFINITIONS

Archives: Archives refer to recorded information in different format that are considered to have secondary value or permanent value to be preserved as a memory or heritage for the different generations of the community forever.

Archives Repository: Archives repository refers to either institution or storage building for recorded information with enduring value or secondary value or archival value.

Housed Archival Materials: Housed archival materials refers to recorded information in their different formats and mediums with enduring value or permanent value kept in archival custody.

Information Cleanliness: Information cleanliness refer to information housed in custody without any tempering of any kind for reliability, authenticity, and trustworthiness. Such kinds of records maintained its characteristics since the moment it was created.

Chapter 4

Arresting Infodemic Proliferation in the Advent of COVID–19:
Unpacking Practical Strategies in Confronting Fake News

ABSTRACT

COVID-19 triggered rethinking the inevitable critical role of the media in disseminating information. The media remains the focal point in being the viable conduit of health communication throughout the world. Despite the media playing an important role in health promotion and remaining the most important single source of health communication information, COVID-19 has made the media susceptible to the proliferation of fake news. The media's vulnerability to fake news makes it prevalent to implement practical measures to mitigate and curb it.

INTRODUCTION

The continued slow pace to secure cure indefinite cure for Covid 19 has created a perfect opportunity for fake news, misinformation and disinformation (Rusero et al., 2021). Discourses of the pandemic surrounding measures and regulations put in place by WHO for all states to comply and the

ongoing discourses of vaccinations on a global scale have not been spared by infodemic. Amid a global pandemic, conspiracies, hoaxes, rumours, false information and fake news have all manifested much to the detrimental effects on how best to ensure citizens' compliance and cooperation on measures put in place to arrest the spread of the scourge. The insurgence of the novel coronavirus, also known as Covid 19, has caused unprecedented infodemic to similar proportions to the deaths and damage to humanity that the same virus caused. In February 2020, WHO characterised the rampant spread of Covid 19 related misinformation and fake news as an "infodemic". In its 13th Situation Report of 202, WHO defined an *infodemic* as "an overabundance of information, some accurate, some not, that makes it hard for people to find trustworthy sources or reliable guidance when they need it." Due to the complexity of the pandemic, numerous theories on the origin, nature and symptoms of Covid 19 have been conjured with the media awash with the same information (Khan, 2021: 18).

What remains worrying, especially regarding Covid 19 information from the media, is that some of the news is true and others are false, while others are mere propaganda. This chapter is a modest attempt to illustrate the necessity to arrest fake news in the advent of a pandemic through unpacking practical strategies. The chapter is theoretically anchored on the political economy of the media framework that predominantly suggests that understanding media performance and outcomes ought to be done through nuancing the analysis of the social relations constitution the production, distribution and consumption of communication resources.

METHODS

This chapter is based on explorative qualitative research. To understand the dynamics of arresting fake news proliferation in the advent of Covid 19 and unpacking the practical strategies to that effect, data were drawn from observations and desktop study, which consisted review of the literature. Secondary Sources consisting of textbooks, journal articles, reviews, press statements, opinions, and features were consulted, and some reports were generated by WHO, UNDP, and other non-state actors.

THE POLITICAL ECONOMY OF THE MEDIA

Numerous scholars have established various approaches to explaining and understanding the relationship between the media, its owners and its audience; one such approach is the political economy theory. The political economy approach is critical in understanding the operation of the media and its influence on society. Vincent Mosco (1995) in Boyd-Barrett and Newbold (1995:187) defines *political economy* as 'the study of the social relations, particularly the power relations that mutually constitute the production, distribution, and consumption of resources, including communication resources'. Thus, the political economy theory, as applied to the media, examines the ways that communicative activity is structured by the distribution of material resources and the extent to which cultural production is controlled or influenced by large corporations (Boyd-Barrett and Newbold, 1995:191). Political economy also "looks at consolidation, diversification, commercialization, internationalization, the working of the profit motive in the hunt for audiences and advertising, and its consequences for media practices and content" (Boyd-Barrett and Newbold, 1995:186). Although political economists agree that a few large corporations control national and global media, their view of the relationship between control, ownership and media content differs. This difference results in the sub-division of political economy into two approaches, the instrumentalists and the structuralists.

The instrumental approach focuses on how capitalists use their economic power in a commercial market system to ensure that the flow of public information is consonant with their interests (Curran and Gurevitch, 1996:15). Instrumentalism defined is as the view that social institutions are the instruments of those who occupy privileged decision-making positions, who manipulate them in their narrow interests and often at the expense of subordinate social groups (Hackett, 1986). In analysing power and control in the media, instrumentalism, therefore, focuses on how media owners use it as an instrument of control and extension of their influence. Scholars allied to this approach believe in a direct relationship between ownership, control and content.

They argue that privately-owned media are used as an instrument of class domination. Herman and Chomsky (1988) in Curran and Gurevitch (1996:15) state that 'the powerful can fix the premises of discourse, to 'manage' public opinions by regular propaganda campaigns'. This influence is possible because of the government and the business elite's privileged access to news.

Media owners' ability to determine editorial policies in the newspapers and broadcasting stations they own is an additional factor contributing to this ability to influence the public. In addition, the ordinary citizen rarely makes news or is given the platform to air views that relate to bread and butter issues that significantly affect his welfare. Instead, it is primarily the politicians, business people, or religious leaders who are members of the ruling elite, who constantly give opinions and set the agenda on what should be of national importance. This, of course, flows smoothly in the absence of interruptions but is faced with a calamity of disastrous proportions as has been the case with Covid 19; the entire political economy of the media is heavily altered, distorted and affected.

Advertisers also have additional power to influence media content through their ability to selectively support particular newspapers and television programmes (Curran and Gurevitch, 1996:15). Since the media primarily profits from advertisers, it becomes their mandate to serve their interests first and consider public interest later. Instrumentalists support their viewpoint by pointing out the concentration of media ownership in the hands of a few corporations with capital interests. These corporations are primarily interested in making a profit and promoting their views and ideas.

Instrumentalists also study how conglomerates use the media to protect their economic interests and the interests of the capitalists as a class. Most media content aims to legitimate capitalism's values and structural inequalities because the owners have common interests with capitalists in other sectors (Hackett 1986). The power of these organisations has been increased by deregulation and privatisation, and technological convergence. This domination has resulted in the public interest being subordinated to private interest and no room provided in the media for divergent views.

The structuralists argue that while media owners have influence, there are limits to their control over content due to specific pre-existing economic structures that also influence media content. The theory proponents point out that owners, advertisers and key political personnel cannot always do what they want as they operate within structures that constrain them. These structures also facilitate their expansion of power, thus simultaneously imposing limits and offering them opportunities (Curran and Gurevitch 1996:15).

These structures determine the activities of the owners, managers, and workers. Media content is therefore influenced by a combination of factors within specific structures. Media products need a significant injection of capital investment, thus the motivation by media organisations to get a return on investment made. In a guided market system, media institutions' ownership

is guided by who can afford to enter the media market. To maximise profits in such an environment, concentration and internalisation within the media are required, forming concentrated ownership. Such factors are economic structures beyond the control of media owners, but they have a bearing on the structure of the media industry and media content (Jeffrey Klaehn n.d).

Another cost factor raised by structuralists is media reliance on advertisers as a primary source of income. As discussed previously, this has an important bearing on the content of media products. Herman and Chomsky (1988) in Jeffrey Klaehn (n.d) indicate that the media's reliance on specific news sources also influences media content. They cite that the media relies on information provided by governments, businesses and 'experts' funded or approved by the agents of power. As such, this information will only serve to further the interests of the elite at the expense of society as a whole. For example, to substantiate specific facts in a story or serve as an interpretive guide to particular events, journalists will enlist the aid of 'expert' opinions published in the press. The expert chosen will undoubtedly tow whatever line the journalist or the editorial policy requires. Government regulation is another important factor influencing the content of media products and even the structure of the media landscape. The government is a structure, and the media must comply with its laws and regulations.

BRIEF BACKGROUND ON COVID 19

This whole text is full of several previews of the historicity of Covid 19 dissected by authors as they unpack several themes at hand. Without risking duplication, the chapter maintains that the origins of Covid 19 can be traced to Wuhan, China (Rusero et al., 2021). The Chinese Wuhan City Health Committee (2019) reported 27 pneumonia cases stemming from new unknown aetiology on 31 December 2019, with an initial source linking this to the Wuhan Huanan Seafood Wholesale Market (Crawford et al., 2020). WHO declared the novel coronavirus a pandemic in 2020 following Covid 19's devastating ravages of epic proportions on humanity on a global scale (Jakaza et al., 2021).

CONTEXTUALISING FAKE NEWS

Contemporary notions of fake news are often located in the election of Donald Trump as the 45th president of the United States of America (Mare et al., 2019). However, the authors follow an argument that fake news is as old as humankind and in the context of Africa, it has always been part and parcel of the news ecosystem. However, digital mass communication technologies have amplified fake news (Mare et al., 2019). Msindo (2009) argues that fake news dates back to Zimbabwe's colonial era, effectively deployed by white settlers to allay their fears and insecurities. Moreover, in the context of Africa, "journalists have always had to learn to treat journalism as a contested area vulnerable to manipulation by governments and powerful social elites" (Mutsvairo and Bebawi, 2019: 5). At the heart of deliberations on fake news is that the state has largely been complicit in being the producer, processor and distributor of fake news (Mare et al., 2019). This is mainly because of the continued perception by politicians that the media is a site of struggle whose unfettered access and control guarantees political power.

Fake news can thus be understood as fabricated misinformation presented as truth. It is the publication of known false information and sharing it amongst individuals. Ordinarily, fake news is the intentional publishing of misleading information verified as false upon fact-checking. Fake news is thus the deliberate production and sharing of misleading false information to intentionally gain political, economic and ideological mileage (Mare et al., 2019). Furthermore, fake news refers to context factoring the style of conventional news intended to misinform (Waisbord, 2018: 1867) deliberately. In the topical context of this chapter, we conceptualise fake news by way of an annotated diagram illustrated in Figure 1 below:

- Hoaxes/rumours – This may be understood as a malicious deception often clouded by the humorous nature of the message or packaged information as well as how it is put across.
- Propaganda is information, especially of a biased or misleading nature, used to promote a political cause or point of view.
- Disinformation – This refers to the deliberate sharing of information to inflict harm
- Misinformation – This refers to the sharing of false information but with no harmful intentions

Figure 1. Source: Authors' construct

- Hatred – Refers to sharing information for the specific purposes of inflicting hate towards a particular ethnic group, race or nationality.

More than just contextualising fake news, it is also essential to locate fake news triggers. From the inset, we argue here that the reconfiguration of information and media infrastructure has witnessed several manifestations, of which fake news is one. Traditionally media was a monopolistic preserve of the state and a few powerful elites in one form or another (Rusero, 2014). However, the Internet and social media platforms have refashioned the news ecosystem (Rodney-Gumede, 2017). Thus, the contemporary problem of fake news cannot be understood outside of the recent digital transformation of the news ecosystem (Mare et al., 2019). However, in the Global North, fake news has been largely a phenomenon associated with the rise of populist politics, digital capitalism, the transformation of the public sphere and structural weaknesses of liberal mainstream media (Farkas and Schon, 2018). In sub-Saharan Africa, the rapid production and distribution of disinformation and misinformation and deployment of cyber propaganda have been made possible by the low barriers to media and artistic expression associated with the Internet and its ancillary digital technologies (Mare et al., 2019).

This reconfiguration of the media landscape has meant that the one-way communication and information dissemination traffic is now moribund. The masses of any given African society have ceased to be the mere consumers of news and daily doses of state propaganda and sycophantic drool – ordinary people now create, share and relay content through social media platforms and the Internet (Rusero, 2021). However, as Moyo (2018) observes, mobile Internet and social media have become vehicles for spreading fake news, rumour, hatred, disinformation and misinformation. This argument has further been amplified by Mare et al. (2019), who opine that:

Promoted by digital technologies like Bots (automated software used to carry out normative tasks on the Internet) and social media platforms like Facebook, WhatsApp and Twitter, 'Fake News' and cyber-propaganda have permeated into our everyday lives, making it difficult for users and audiences to sift the chaff from the grain. Elections in Zimbabwe, South Africa, Kenya and Nigeria were marred by indiscriminate sharing of fake news and cyber propaganda by cyber troops, citizen campaigners and digital influencers on social media platforms (Mare et al., 2019: 4).

THE ARGUMENT

We argue here that fake news has the corrosive effects of creating misinformed citizens. This has a damaging effect on all efforts required to wobble out of the pandemic quagmires currently trapping the world. Modern life is increasingly mediated, and the mass media are virtually inexorable to today's world (Rowe, 1993). The extent to which the public is subjected to and saturated with media information makes threats of fake news more alarming (Rusero, 2021). In addition, many in the public health, medical, and related fields regularly use mass media to convey health messages, knowledge, and health promotion strategies (Khan, 2021). They rely on the media to support or reinforce their health messages for successful intervention. Hence, in order for people to benefit immensely from the media, the media must communicate timely and accurate i9nformation that improves the understanding of risks associated with pandemics and informs decision making (Coomps, 2009). Thus, against the realities of the criticality of news in health communication and information needs, there has to be some degree of accuracy in seeking ways that ensure gate-keeping against fake news and measures of flushing fake news should make it manifest. This is so because pandemics are progressively vital

forces that can do remarkable physical, psychological and social harm and result in complex nonlinear and unanticipated interactions between systems (Reynolds, 2008).

Disease outbreak calls for stabilising the public's fear through the dissemination of knowledge (Khan, 2021). Health crisis communications include information about jeopardies and ways to ameliorate them. Risks information may also embrace warnings, risk assessments, notifications and information about symptoms and medical treatments (Seeger and Reynolds, 2008). Consequently, the media's accurate, credible, timely and reassuring communications have become essential for crisis management, especially during an outbreak (Khan, 2021). Mass media should communicate information to the public needs to make sense of the health crisis. This information is crucial for improving disease prevention, minimising spread and impact and advancing treatment (Houston, Chao and Reagan, 2008).

Health communication is about providing people with accurate information on how they can cope with Covid 19 pandemic. This should be aimed at mitigating and minimising the harm of the pandemic to society. However, this cannot fully flow in a terrain infested with fake news. In this context of an unprecedented health crisis, fake news surrounding a pandemic, notably in the form of disinformation and misinformation, pose a severe risk to public health and public action (Brennen et al., 2020). Fake news on coronavirus will inherently cause anxiety, despondency, uncertainties, panic and confusion, especially concerning prevention, cure and management. The outcomes of this chapter should be to equip people with the abilities to detect and recognise misinformation and cultivate a desire to stop the spreading of information, particularly for a global health crisis such as Covid 19.

NOTABLE CONSEQUENCES OF FAKE NEWS

Deliberate purveying of fake news gave fertile credence to increased racism, xenophobia, and Islamophobia cases. The notable trend has witnessed hate speech and even stigmatization targeting people of particular ethnic backgrounds (Iqbac, 2020). The rise of harmful stereotypes that reinforce social stigma harms victims. It may ultimately support the ongoing transmission of the virus or pandemic and weaken the world's ability to respond to and eradicate it. WHO characterizes social stigma of that nature as "the negative association between a person or group of people who share certain characteristics and a specific disease" (Pirkova, 2020: 16).

The advent of Covid 19 has witnessed negative stereotyping of certain groups directly or indirectly linked to Covid 19 (UNICEF; 2020; WHO, 2020). In March 2020, during a speech from the White House, President Trump described Covid 19 as a "foreign virus". Based on the data provided by the Atlantic Council's Digital Forensic La (DFRLab), in the aftermath of Trump's statement, the use of the term spiked on Twitter and in news articles. Similarly, when Trump retweeted a statement that described Covid 19 as the "Chinese Virus", the phrase was retweeted 24 049 times. When dozens of positive cases were confirmed in India among participants of an event organised by the Muslim missionary group in Delhi, it sparked a wave of Islamophobic attacks (Yasier and Perrigo, 2020).

In Italy, the wave of xenophobia and hate speech against the Chinese community, referred to as Sinophobia, intensified following several claims that the virus was deliberately manufactured in China (Lin, 2020). In these notable cases, it can be argued that fake news stories are being promoted on social media platforms to deceive the public for ideological gain. It is common knowledge that social media users are more likely to seek information from people who are more like-minded or congruent with their own opinions and attitudes. In addition to the corrosive effect of creating misinformed citizens, fake news has a notoriety of weakening democratic institutions.

It can also destroy the credibility of media institutions and libraries and all avenues of information repositories, thereby further eroding trust in news and information. For these and several other damaging effects, the authors in this chapter call for the revitalisation of known strategies to checkmate fake news. Robust strategies ought to be rejuvenated and reinvigorated to arrest infodemic and fake news.

UNPACKING THE PRACTICAL STRATEGIES FOR CURBING FAKE NEWS

Several techniques have been devised to curb the scourges of fake news. In this text, we provided a toolbox for fact-checking, designed by ZimFact based in Zimbabwe. In addition to that, this section advances three mechanisms practically helpful in arresting fake news, namely the CRAAP technique proper to media practitioners, information scientists and media consumers and audiences, and the 5Ws similarly applicable to the same groups of users.

CRAAP

CRAAP is an acronym for Currency, Relevance, Authority, Accuracy and Purpose. CRAAP was devised by Sarah Blakeslee of the University of California at Chico's Merian Library. Although widely used as the basis and guidance for broadly evaluating information, the authors are convinced mainly that CRAAP Test applies to the entire media and information infrastructure. In this regard, it must be emphasised that there is an organic link in terms of an existential relationship between the media and libraries (Chisita and Rusero, 2018). Indeed, the two named authors expose the nexus between the media and library information services regarding information origination, processing, retrieval, sharing and preserving. We emphasise the criticality of CRAAP in the providence of a list of questions to pose in an endeavor to determine the reliability and credibility of the sources of information. Information sciences and media practitioners are strongly urged to adhere to CRAAP before any attempt to share, cross share and distribute information about Covid 19.

Authenticity and reliability of information remain cardinal virtues in the broader distribution of information dealing with critical aspects such as people's livelihoods. Due diligence and caution ought to be employed, and CRAAP has proved to be one of the most reliable techniques at the disposal of professionals who are considerate of how information distribution on a broader scale can positively or negatively affect the well-being of the people. In the pandemic's health communication and adverse effects, CRAAP becomes even more topical to consider and rely on as a practical toolbox as it is a tried and tested model likely to flush out the possibility of fake news competing with critical health communication needs. CRAAP has further been expanded by way of an illustrious table below:

THE 5WS OF INFORMATION EVALUATION

The 5Ws of information evaluation is a critical tool to evaluate information that the citizens or the masses consume. The Who, What, When, Where and Why help in determining if a source is reliable, credible and appropriate for information sharing. In addition to CRAAP, the 5Ws of Information Evaluation have also proved to be a reliable reference point in sifting and distinguishing fake information from that which is authentic, In the context of what we are

Table 1. The CRAAP Concept

The timeliness of the information	The importance of the information for your needs	The source of the information
• When was the information published or posted? • Has the information been revised or updated? • Does your topic require current information, or will older sources work as well? • Are the links functional? *Another thing to consider* - does the website's copyright date match the content's currency? Or is it just a standard range?	• Does the information relate to your topic or answer your question? • Who is the intended audience? • Is the information at an appropriate level (i.e. not too elementary or advanced for your needs)? • Have you looked at a variety of sources before determining this is one you will use?	• Who is the author/publisher/source/ sponsor? • What are the author's credentials or organisational affiliations? • Is the author qualified to write on the topic? • Is there contact information, such as a publisher or email address? • Does the URL reveal anything about the author or source?
The reliability, truthfulness and correctness of the content	**The reason the information exists**	
• Where does the information come from? • Is the information supported by evidence? • Has the information been reviewed or refereed? • Can you verify any of the information in another source or from personal knowledge? • Does the language or tone seem unbiased and free of emotion? • Are there spelling, grammar or typographical errors?	• What is the purpose of the information? Is it to inform, teach, sell, entertain or persuade? • Do the authors/sponsors make their intentions or purpose clear? • Is the information fact, opinion or propaganda? • Does the point of view appear objective and impartial? • Are there political, ideological, cultural, religious, institutional or personal biases?	

Adopted from Meriam Library, California State University-Chico

discussing here, the 5Ws of Information Evaluation becomes a critical tool of detecting fake news raising signals of what needs to be done before that information has widely been distributed. This has also been illustrated by way of a diagram below.

Who? – Who is responsible for the information? Look at author and publisher information to answer questions. For websites, the "about" section can be useful to find "Who" answers.

What? – What is the purpose of the information? Look at book jacket descriptions or the article abstract. Skim the table of contents and index if it's a book or the article if it's in a newspaper, magazine, academic journal, or website.

74

Table 2. The 5Ws of Information Evaluation

Question	Answer	What Your Answers Might Mean
Are the author's credentials like their education or job affiliation listed?	YES / NO	If yes, it's a good sign. An author's credentials can tell you more about whether they can be considered an expert on this topic.
Who published the book, article, or website?	Publisher:	If you recognise the publisher or the publisher includes the name of a college or university, it's a good sign. You should be critical of books that are self-published or articles and websites that are designed to shock rather than inform.
Are there advertisements in the source?	YES / NO	If yes, be cautious. Many magazines, newspapers, and websites include advertisements. It's up to you to determine whether a publication or website is allowing funding sources to influence content. If you find evidence of clear bias toward advertisers, it's best to avoid the source.
For websites, what is the domain extension?	.com .net .edu .org .gov other	.com or .net are usually commercial or personal websites. Look at other criteria to determine credibility. Websites from an educational institution (.edu) or government agency (.gov) usually contain credible information. Non-profit organisations often use .org, but anyone can register a .org domain so information can sometimes be biased. When in doubt, use other criteria to assess credibility.

Table 3. The 5Ws of Information Evaluation

Question	Answer	What Your Answers Might Mean
Is the information presented as fact or opinion?	FACT / OPINION	Every writer has an agenda and there are different reasons to write, whether it's to inform, persuade, entertain, or something else. Look for sources in which the purpose is clear.
Does the information appear objective and impartial or without bias?	YES / NO	If yes, it's a good sign. You should avoid sources that show a clear bias or prejudice toward a topic.
Does the information accurately portray current beliefs?	YES / NO	If yes, it's a good sign. You should be especially critical of sources that stray dramatically from other information you've collected on the same topic

When? – When was the information published? Look for a copyright date or date of publication. In websites, it's often found at the very bottom of the page.

Where? Where can I verify the information?

Scan the source for in-text citations, hyperlinks, or a bibliography.

Why? Why should I use this source?

Look at book jacket descriptions or the article abstract. If it's in a newspaper, magazine, academ9eic journal, or on a website, scan the content for clues.

Table 4. The 5Ws of Information Evaluation

Question	Answer	What your answers might mean
When was the source published or last updated?	DATE:	Books take longer to compile and publish. A book published within the last two years is generally considered recent. Magazines, newspapers, journals, and websites can provide very recent information.
If it's a website, are hyperlinks working?	YES / NO	If no, be critical. This could mean the website is not regularly monitored or updated.
Is your topic something that changes rapidly and would require the most current information?	YES / NO	Some topics evolve quickly (technology, popular culture, some medical topics), and will require the most current information. Other topics (history, philosophy, political issues) won't change as rapidly so a mixture of newer and older sources will likely be appropriate.

Table 5. The 5Ws of Information Evaluation

Question	Answer	What your answers might mean
Are sources cited?	YES / NO	If yes, it's a good sign. Full citations like footnotes, endnotes, or a bibliography allow you to see the works the author consulted. They also allow you to use these sources as a jumping-off point to seek out other potential resources for your assignment. Good in-text
		citations should give you enough information to allow you to find the original source, including names of authors, research scope, and/or hyperlinks to more information.
Are there charts, graphs, or other evidence to back up claims?	YES / NO	If yes, it's a good sign. Factual information often includes evidence in the form of specific numbers or percentages. Credible information should include original research methods or a citation stating where figures or charts were obtained.
If it's an article, is it peer-reviewed?	YES / NO	If yes, you have a very credible source. Peer-reviewed articles go through a rigorous screening process by other experts in the field. If no, it might still be a good source, but examine other criteria to assess credibility.
Are there statements you know to be false? Are there errors in spelling, grammar, or punctuation?	YES / NO	If yes, be cautious. Information published by reputable sources have a team of editors to ensure information is accurate and well-written.

Table 6. The 5Ws of Information Evaluation

Question	Answer	What your answers might mean
Does the information help you answer your research question?	YES / NO	If yes, it's a good sign. Pay attention to your assignment parameters. The information you use should help add to your paper by providing good background information, evidence, or supporting material.
Does the information provide a good scope?	YES / NO	A book will provide you with in-depth information and maybe even historical context. Shorter articles and websites might cover very specific aspects of your topic. Well researched projects will gather information from many types of sources.
For whom was the information written?	Academics, students, someone else	Academic sources will have a more serious tone and will include supporting evidence. Avoid sources that are too elementary or too technical to be useful. Sources whose sole purpose is to entertain or shock the audience are probably not good choices for a college-level research assignment
Did you learn something new from the source?	YES / NO	If yes, it's a good sign. College assignments are designed to develop your critical thinking skills while building your knowledge. You should always use your curiosity to your advantage and pick topics you're excited to explore.

Source: Cosumnes River College Library

FUTURE RESEARCH DIRECTIONS

The Chapter accentuated the critical praxis-oriented strategies that can be utilised to mitigate and prevent the scourge of fake news in the media in the midst of the COVID-19 pandemic. The chapter has shared practical strategies that are useful for media practionners to utilise as they confront the information disorder. Future research directions for this study should focus on how CRAAP and 5Ws strategies should be incorporated into a holistic literacy programme for the benefit of library, media and related disciplines, policy makers, educators, curriculum experts and users of information. Furthermore, multidisciplinary investigations on the importance or value of these strategies should be conducted to generate knowledge on how to deal with fake news using holistic models of analysing and validating the credibility of information on the COVID-19 pandemic.

CONCLUSION

The preceding discussion has demonstrated that the criticality of health communication in the providence of accurate information likely to assist people during a pandemic, as has been the case with Covid 19, is often jeopardised by infodemic, which manifests as fake news in several forms. Fake news has no place in health communication needs, whose thrust is to assist in allaying fears and anxiety of the public, act as authentic sources if credible and helpful information in how to deal with the pandemic and what measures governments and regulatory bodies like WHO have in place for citizens to comply amongst several other critical information needs. Covid 19 has ravaged the world and will perhaps remain the greatest pandemic of the 21st century era. What has not been explored by way of research are critical aspects arresting efforts put in place to curb the spread of the pandemic. Fake news has been fully exposed as one of the critical facets threatening robust measures put in place. The chapter's thrust provided critical assessment tools in evaluating information in terms of its genuinity and authenticity, as well as its accuracy and reliability. Although CRAAP and the 5Ws can be used separately in assessing the validity of information, the author is fully convinced that if the two techniques are used simultaneously, chances of flushing out fake news are enhanced, including its spread and devastating effects.

REFERENCES

Boyd-Barret, O., & Newbold, C. (Eds.). (1995). *Approaches to Media: A Reader*. Oxford University Press Inc.

Chisita, C. T., & Rusero, A. M. (2018). *Exploring the Relationship Between Media, Libraries and Archives*. IGI Global.

Coomps, T. W. (2009). Conceptualising Crisis Communication. In R. L. Heath & D. H. O'Hair (Eds.), Handbook of risk and crisis communication (1st ed., pp. 99–118). Academic Press.

Curran, J., & Gurevitch, M. (Eds.). (1996). *Mass Media and Society* (2nd ed.). Arnold.

Hackett, R. (1986). *For a Socialist Perspective on the News Media*. Available: http: //spe.library.utoronto.ca/index.php/spe/ article/view /13261/10145

Iqbal, N. (2020). 'They yelled Coronavirus' – East Asian attack victim speaks of fear. *The Guardian*. Available: https://www.theguardian.com/world/2020/feb/16/they-yelled-coronavirus-first-british-attack-victim-east-asian-man

Khan, K. B. (2021). An X-Ray Expose of Health Communication on the Coronavirus pandemic in Zimbabwe's Print Media. In Covid-19 Manifestation, Ramifications and Future Prospects for Zimbabwe - A Multi-disciplinary Perspective. Mankon, Bamenda: Langaa Research and Publishing CIG.

Klaehn, J. (2002). *A Critical Review and Assessment of Herman and Chomsky's 'Propaganda Model'*. Available: http://www.chomsky.info/onchomsky/2002----02.pdf

Liu, Y. (2020). Coronavirus prompts 'hysterical, shameful' Sinophobia in Italy. *Al Jazeera*. Available: https://www.aljazeera.com/news/2020/02/coronavirus-prompts-hystrerical-shameful-sinophobia-italy-200218071444233.html

Mare, A., Mabweazara, H. M., & Moyo, D. (2019). "Fake News" and Cyber-Propaganda in Sub-Saharan Africa: Recentering the Research Agenda. *African Journalism Studies.*, *40*(4), 1–12. doi:10.1080/23743670.2020.1788295

Moyo, D. (2018). A vicious online propaganda war that includes fake news is being waged in Zimbabwe. *The Conversation*. https://theconversation.com/a-vicious-online-propaganda-war-that-includes-fake-news-is-being-waged-in-zimbabwe-99402

Msindo, E. (2009). 'Winning hearts and minds': Crisis and Propaganda in Colonial Zimbabwe, 1962-1970. *Journal of Southern African Studies*, *35*(3), 663–681. doi:10.1080/03057070903101888

Mutsvairo, B., & Bebawi, S. (2019). Journalism educators, regulatory realities, and pedagogical predicaments of 'Fake News' era: A comparative perspective of the Middle Est and Africa. *Journalism and Mass Communication Educator*, *74*(2), 143–157. doi:10.1177/1077695819833552

Rowe, D. (1993). Unequal Media. In J. O. Leary & R. Sharp (Eds.), Inequality in Australia: Slicing the cake. William Heinemann.

Rusero, A. M. (2014). *A Practical Guide to News Writing*. Felixco Commodities.

Rusero, A. M. (2021). *Covid 19 Ramifications on the Media in Zimbabwe - Unpacking the Sustainability and Operational Constraints*. Media Alliance of Zimbabwe.

Rusero, A. M., Mawere, M., & Mashavira N. (2021). *Covid-19 Manifestation, Ramifications and Future Prospects for Zimbabwe - A Multi-disciplinary Perspective*. Mankon, Bamenda: Langaa Research and Publishing CIG.

Seeger, M., & Reynolds, B. (2008). Crisis Communication and Public Health. Intergrated Approaches and New Imperatives. In M. Seeger, T. L. Sellnow, & R. R. Ulmer (Eds.), *Crisis Communication and Oublic Health* (p. 1). Hampton Press.

UNESCO. (2018). *Journalism, 'fake news' and disinformation: A handbook for journalism education and training*. Available: http;//en.unesco.org/fightfakenews

World Health Organisation. (2020a). *Novel Coronavirus (2019-nCov) Situation Report-13*. Available: https://www.who.int/emergencies/dieseases/novel-coronavirus-2019/situation-reports

World Health Organisation. (2020b). *Coronavirus disease (COVID-19) advice for the public*. Available: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public/myth-busters

Yasir, S., & Perrigo, B. (2020). *Hate Is Being Preached Openly Against Us. After Delhi Riots, Muslims in India Fear What's Next Time*. Available: https://time.com/5794354/delhi-riots-muslims-india/

Chapter 5

Digital Archiving to Spearhead Access to Heritage Information for All Interested Clients in Africa

ABSTRACT

This chapter sought to investigate matters pertaining to digital archiving to spearhead access to heritage information for clients. This study relied on a literature review to study a digital archiving framework to spearhead access to heritage information. The study discovered that manual ways of preservation and sharing archival material deprive some citizens of the right of access to heritage information material, especially those from rural and marginalised areas. In most instances, archival institutions are in cities that most rural dwellers find difficult to reach. It is of great importance for archival institutions to identify and adopt appropriate systems to close gaps in the preservation and easy access of archival material. The chapter proposes a framework for digital archiving to spearhead access to heritage information as a benchmark for archival institutions.

INTRODUCTION AND BACKGROUND

Archiving is "the process of moving files that are no longer actively used to a separate storage device for long-term retention" (Garfield, 2017). Archiving

is one stage of the life cycle that ends with disposal. In disposal, we have destruction of ephemeral records and archiving of records of enduring value (archival). Like many other business activities, archiving also occurs due to certain reasons, including legal obligations, requirements to be kept for a specific period or permanently, historical or heritage value, and, more importantly, it may useful in the future (Garfield, 2017). Records of enduring value are archived for permanent access and preservation for many future generations to learn and understand what happened before they were born. Populations increase with time and population density is not always balanced. In most cases, the birth rate is higher than the death rate with the result that the number of people per community increases from time to time. This brings about changes to archives, which need to balance access to the material to their sphere of influence regardless of the density. The advantage is that as populations have increased, we have also experienced a growth in and development of technology, especially information and communications technology (ICT). This is a remedy that disrupts information access paradoxes. Asogwa (2011) attests that using technology for administrative and academic purposes, digitised collections can be made accessible in a reformatted/ refined way which allows faster browsing simultaneously on the Internet by millions of users in different and remote locations. As is becoming the emerging practice of archivists, electronic preservation, and the best way to make archival resources available and accessible to users, have been the greatest worries of modern archive professionals.

It cannot be overemphasised that archival material, like the institutions in which it is housed, is not popular even if it is known to prospective users. Archives are even forgotten by their current clients due to the distance between the storage or access point and user inhabitants or sphere of influence. Archives are mostly located or erected far away from people who may be considered clients or users in cities and towns (Ngoepe & Ngulube, 2011). In most African countries, archives are only located near a few researchers with the majority of the marginalised researchers situated in remote rural areas in, for example, the KwaZulu-Natal province of South Africa (Koopman, 2002). Nicholson (2020) underscores the following:

Libraries, for example, house collections of printed works but must now also provide access to online journals, e-books, multimedia, Africana and archival treasures, images, government publications and legal material, posters and artworks. Collection, development, cataloguing, lending, preservation and replacement must take place online as well as in hard copy.

One of the factors contributing to this lack of advocacy is that the archives seem to focus on the sphere of influence of those in close proximity (Ericson, 1991). Archives must have a means to encourage citizens and a way to provide an appropriate access mode to the archival material (Blais and Enns, 1991). Archival institutions should strengthen support for their material by ensuring that the usability of the material is as extensive as possible (Ngoepe & Ngulube, 2011). Archival institutions in many countries, and Africa, in particular, still lag behind in adopting the latest technology and instead insist on an ancient modus operandi. Due to the outdated modes and processes of information access, users may consider archival material a white elephant, especially since the current generation is addicted to ICT. Archival institutions need to move with the times in utilising technology to avoid losing their customers and the interest of prospective users, lest they are rendered useless to future generations. In the current situation, most if not all the archival institutions in different countries across the world still operate manually or physically. What is clear with the current trend towards technology is that any manual modus operandi may be converted to an electronic form of operation with the same rules, principles, policies and regulations still applicable and practicable. Asogwa (2011) shows that cultural institutions in many parts of the world are investing in digital projects for several reasons which may include, providing access, reduction of over-handling of materials, and assisting in promoting the collections and visibility of the institutions.

PRESERVATION AND ACCESS OF ARCHIVAL MATERIAL

Nicholson (2020) highlights the fact that "without access to library and archival collections, creativity and innovation would be almost impossible". Accessibility of archival material and repositories in South Africa is still a burning issue. Some challenges resulting from this are lack of public programmes and advocacy, languages other than English or Afrikaans, literacy matters of expected users and lack of knowledge about users' needs (Ngoepe & Ngulube, 2011). In the current era, archival institutions still operate manually in their different forms from country to country. To access archival records in Jesuits in Britain Archives, you have to visit the archival institution after making an appointment with the relevant authorities, but they are also able to assist clients with e-mail or post. They have archival material that contains personal information of individuals who are still alive and as such those are restricted to connected people. In other words, these

kinds of records are personal and restricted in terms of access. Limitations or restrictions are normally imposed by depositors to the repository and for the archivist to implement. Some of the physical records considered damaged are also restricted for access. Reproduction of records are made with permission from the archivist. Access to archival material is free but making copies is charged at a particular rate per page. During lunchtime, readers are required to leave the reading room for security purposes. Users are issued with original material in the reading room and cautioned to take care of and report any damage to such records. The number of records allocated per reader is also restricted. Reproduction, copying and quoting information from material are regulated and may be done with permission from the archivist. The archivist has the power to remove or terminate any reader not complying with the regulations in place (Jesuit in Britain Archives, 2015). To access the collection and archives of the Smithsonian National Museum of Natural History, readers have to make an appointment for a visit a month in advance and they are located in Suitland, Maryland (National Museum of Natural History, n.d.). At the New Zealand Archives, the chief archivist is responsible to control access and may prohibit or limit access or copying of archival material by users (Archives New Zealand, 2015).

Considering that in most archive repositories, archival material is still accessible physically from the archival premises, this becomes a challenge when disasters like Covid-19 strike the community. For instance, the United States National Archives has closed all national archives, research rooms, museums and presidential libraries as a result of the public emergency caused by Covid-19 and all users have been directed to an e-mail (The US National Archives and records administration, n.d.). The reading rooms for archives and special collection access have also been closed at the London School of Economics and Political Science due to the coronavirus pandemic (London School of Economics, 2021) as a result of physical preservation and access of archival material. The South African Western Cape government (2017) indicates that provincial archive records are only accessible for reading at the Western Cape Archives and Records Services at 72 Roeland Street, Cape Town. In order to make copies, you need to complete request forms and collect the copies in future when they are ready, and this is for the requester's cost.

APPROPRIATE ARCHIVAL SYSTEM

Technological trends move at supersonic speed and there is no guarantee that today's technology will still be relevant or usable tomorrow (Venson, Ngoepe and Ngulube 2014). Media or archival records or information storage and preservation usually deteriorate over time (Cloonan and Sanett 2002). According to Kintronics (2021), the system used for the preservation of archival material today has several requirements, including using media that may not last less than 50 years and ensuring that the information preserved should not change in any way. In other words, the system should protect the records from any unintentional changes, damage or fade. As a specialist in the supply of archival systems, Kintronics (2021) lists optical jukebox libraries, archive appliance, cloud archiving and malware protection using write-once storage as some of the reliable systems. However, these are still manual and may not improve on ease of use access. For instance, optical jukebox libraries are used for storing archival information on discs for ease of retrieval, archive appliances are used for stacking optical disks with labels on the shelves or drawers for ease of retrieval, cloud archiving is used to store archival material in the remote server or cloud server redundantly and malware protection's storage of write once read many protects archival material from viruses and other threats (Kintronics 2021). Venson et al. (2014) report that

information obtained through content analysis of various national development plans of countries under study indicates that only Botswana and Zimbabwe's NDPs mention efforts towards an improvement of archives and records management systems, while Kenya, South Africa, Tanzania and Zambia's NDPs are silent on archives and records management and fail to pinpoint a strategic archives and records management programme as a key ingredient in the plan.

Like South Africa, countries on the African continent still lag behind in the application of technology for archival record preservation and access. For instance, technologies such as cellphones and social media like Facebook, wikis, podcasts, YouTube and Twitter are still not applied to market the services although the majority of archives already have websites for their archival institutions. At the current moment, the website for archival institutions in South Africa allows users to search for available material in the repository and make arrangements for a visit to use the material within the institution. However, there is no provision for accessing and utilising the material online (Ngoepe and Ngulube 2011). Asogwa (2011) attests that

by digitizing their collections, cultural heritage institutions in Africa can make information that was previously available to only selected localized group of researchers accessible to many. Digitization of inactive but valuable documents allows users in Africa and beyond to search collections rapidly and comprehensively from anywhere at any time of the day.

DIGITAL ARCHIVING TO SPEARHEAD ACCESS TO HERITAGE INFORMATION

According to Asogwa (2011), archival and library material in Africa is still acquired, organised and preserved manually with the information mostly recorded or captured in a traditional or analogue form. Asogwa (2011) attests that trends in computer technology have led to most organisations, including some developing countries, moving their modus operandi to online preservation and access. Technology provides an opportunity for developing countries to provide quicker access to accurate information and improve the quality of their service to clients. In taking this opportunity, archives will need to digitise their print or manual archival material for preservation and serve their clients online for access at the time and place of their choosing. Digitisation of archival material may bring many benefits to the institutions and countries at large, such as material, resource and cost sharing through collaboration and partnership. Digitisation is a simple process although it requires more labour or energy depending on the quantity of the material (Asogwa, 2011). The exercise of moving archival material from print or traditional to electronic access requires competent and skilled archivists alert to the dos and don'ts pertaining to preservation, accessibility, copyright and intellectual property rights (Asogwa, 2011). Digitisation of archival material cannot happen overnight; it requires doing proper planning, setting goals, developing policy, considering legal and copyright issues, selecting material and verifying criteria and material metadata (Asogwa, 2011). Nicholson (2020) indicates that

South Africa's current copyright law dates back to 1978, and is completely inadequate, outdated and irrelevant in a digital world. It has been a barrier to access to information for far too long.

The Conversation Africa (2021) and Asogwa (2011) point out that digitising manual records does not mean replacing them; it entails duplicating, preserving and managing them separately in their different formats. This is

unlike the preservation of archival material that was born digital in which the archive simply needs to identify a suitable system to assist in the continued management of such a collection. Examples of records that were born digital include e-mails, spreadsheets, websites, social media and other documents. In maintaining effective preservation of such records, archives would need ICT resources such as software, equipment and other hardware, including servers and computers. This will avoid maintenance of ancient containers like floppy disks, compact discs and cassettes, to list a few. The bigger challenge is that in current archival material access procedures, even if archival material is digitised, users are still required to travel to archival institutions to access such material. This implies that the system depends on the local network within the institution and material is not accessible to users outside the institution. In addition, there are funding challenges pertaining to digitising paper-based archives and capturing born digital records (The Conversation Africa, 2021). Generally, challenges in digitisation include frequent changes in and cost of computer software and hardware, users' technophobia, technical skills and expertise, inadequate technological infrastructure, obsolete technology, refreshing, emulation, frequent migration, legislation and policy guidelines availability, digital media deterioration, and the like (Asogwa, 2011). There are large collections of fragile material which can no longer be handled. The only way to preserve this material – and to make it accessible – is to digitise the content. For example, there are media libraries full of Beta and VHS video tapes, film reels and other material that can no longer be accessed as the technologies are obsolete (Nicholson, 2020).

Ngulube, Sibanda and Makoni (2013) underscore that in the National Archives of Zimbabwe access is limited by system barriers. They further state that limited competencies to promote material to users and policies, procedures and practices also contribute in making access difficult to users. Access should be considered a top priority of the activities and functions of archival institutions, including acquisition, accessioning, appraising, arranging, describing and preserving archival material, since all these are done with the purpose to ensure ease of access. Archival material contains primary data and providing access to material constitutes an important administrative activity of the archival institution (Ngulube et al., 2013:123). Access in archives is about granting users the opportunity to discover material to use and to gain an understanding of the information it documents about the heritage of the nation (Loewen, 2008). In order for the people to have access to archival material, they need to be granted permission or intellectual, legal and physical rights (Ngulube et al., 2013). During digitisation, the authenticity, originality and

integrity of the material and content should be maintained. There should be no violation of intellectual rights whether physically or in terms of copyright, privacy and property rights (Zulu, 2008).

ARCHIVAL MATERIAL ACCESS PRINCIPLES AND CHALLENGES

There is limited focus on addressing matters pertaining to access of archival material in Africa. For instance, several studies show that there are limited studies on access to archival material in sub-Saharan countries (Harris, 1992:12; Murambiwa & Ngulube, 2011; Ngulube, 2002:563; Ngulube, 2006; Ngulube et al., 2013). The most disturbing issue is whether archivists are capable of serving their clients considering the former's lack of knowledge and understanding of archival users and their needs (Zolotarevsky, 2010:48; International Council on Archives 2013). Archivist do not put sufficient effort into striving to satisfy their users' needs (Kilasi, Maseko & Abankwah, 2011). This may discourage the users from utilising archival services. For instance, Swaziland National Archives are unable to provide suitable reading facilities and often struggle to provide access to required archival material for their users (Hlophe and Wamukoya, 2007). It is a evident that archival material that is not accessible may not be utilised and that access is a key factor in utilising material (Ngulube et al., 2013).

The International Council on Archives (ICA)(2013) has formulated seven principles to guide archives across the world in providing access to material. These principles address issues pertaining to the provision of public rights of access to public and private archival material, and information on the availability and restriction of access to certain specified material. The principles also talk to archival institutions' requirements to be proactive in addressing access-related issues. The principles show that access restrictions to material should not be vague to users, but should clearly state the duration of such restrictions based on a legal framework that is openly acknowledged. In accordance with these principles, terms of access should be equal to material with users granted the right to lodge an appeal in case there is dissatisfaction about access, especially when there are some denials or restrictions. The operational challenges of archival institutions should not be a barrier to user access to archival material (ICA, 2013).

Archival Material Access Procedures and Regulations

A policy and legislation should be in place to regulate access to archives with straightforward principles and procedures. Some organisations currently operate without policies, which poses serious risks (Menou, 1991). Most of the archives in countries across the world operate within legislation and policies but it is not clear how access is regulated, especially online access for electronic material. For instance, Zimbabwe has the National Archives of Zimbabwe Act of 1986 (Ngulube et al., 2013), Botswana has the National Archives and Records Services Act of 1983 and South Africa has the National Archives and Record Service of South Africa Act (previously National Archives of South Africa) 43 of 1996 (Marutha and Mosweu 2020). Ngulube et al. (2013) show that South African legislation is not clear about addressing matters of access to archives. Both South African and Zimbabwean legislation generally addresses issues about storage, preservation, management and caring of archives and repositories in their purpose statements. In addition, the National Archives and Record Service of South Africa Act touches on making sure that records are promoted and accessible, while the National Archives of Zimbabwe Act also talks to inspection of the national archives. Policies in the Zimbabwean archives are quiet about matters pertaining to access and restrictions. Not finding aid is another challenge discovered in the Zimbabwean archives (Ngulube et al., 2013). Hence, Mazikana (1999) and Ngulube (2002; 2006) allude to the fact that not finding aid is one of the factors contributing to difficulties in accessing archival material in African archive repositories. Finding aid for online access to the National Archives of Zimbabwe was impossible as the link led to incorrect information (Ngulube et al., 2013; National Archives of Zimbabwe, 2012). In the current advanced technological era, archive repositories are expected to move access to their services online since the current generation has ICT know-how and wants archive services to be accessible at any time of the day (Zolotarevsky, 2010:48; Hlophe & Wamukoya, 2007).

There are times when physical access to archival records at the repository becomes a barrier to users, for instance working hours and distance from the site in which access is provided (Wilson, 1991; Ngulube et al., 2013). If users do not have flexibility and sufficient time to access the material in the repository, the material may end up being underutilised (McCausland 1993; Shepherd and Yeo 2003). For instance, most archival institutions are open during working hours in school terms which may deprive students and workers

of the opportunity to access the material, especially because the location of the repository is situated some distance from the targeted users (Ngulube et al., 2013; Kilasi et al., 2011; Hlope & Wamukoya, 2007). Physical access to archival material may not be advantageous since the reading room only accommodates 15 people at a time (Hlophe & Wamukoya, 2007). This implies that even if users are able to visit the physical archival institutions the capacity limitation may lock them out, often for the whole day. In addition, Ngulube et al. (2013) and the National Archives of Zimbabwe (2012) note that even when people gain access to material at the archival institution, other barriers may be that only one item of certain material is available, which can only be accessed by one user at a time, and copying and photocopying facilities may not be available or functional or may not be allowed. In Zimbabwe, for instance some users have to arrange with archive staff members to accompany them to town to make copies of Zimbabwean archival material. In South Africa, copying facilities may not be available, but the archival material may not exit the archival institution (Dunlop, 2009). Another issue pertaining to access to archival material, is that people with different disabilities are not catered for. There are no special arrangements for people with different kinds of disabilities (Serene 2011), such as "walking, seeing, hearing, speaking, perceiving or understanding, or physical coordination". Most of the material is not accessible to people with these disabilities (Ngulube et al., 2013). Archival material is an investment for the community and should be kept in such a manner that it is continuously accessible (Venson et al. 2014). It is critical to preserve and manage records in such a manner that their retrieval and access do not become a struggle (Abbott, 1999). The role of these archival records is still pivotal to community development (Venson et al., 2014).

PROBLEM STATEMENT

The problem that set this study in motion is that users are not located in close proximity to archival institutions and access to archival material is rarely achieved even when an attempt is made. Asogwa (2011) attests to the following:

Information emanating from governments, institutions, organisations, scholars as well as private individuals is increasingly appearing online and being demanded electronically thereby creating a new environment and challenging to library and archival profession. It is placing greater pressure on

90

information professionals and the urgent needs to be abreast of developments in the global archival environment.

Looking at the current situation in Africa, archival institutions are positioned or located in cities or towns which are far removed from the majority of community members who may need to use the material. In addition, archival institutions have no programmes to make the community as prospective users aware of the material and institutions that house the most important information about their heritage and memory of the country. From experience, we are aware that the majority of citizens are not aware that this kind of material exists nor where these institutions or repositories are located. The key issue is that even though some of this material is available and properly preserved it appears to be difficult to access due to factors, including remoteness of archival institutions and that only physical access is allowed at institutions with no electronic access available to users wherever they are located or work. Therefore, users are forced to physically visit the institution should they need access to the material and compelled to wait for access in cases where another user is using the material. Therefore, this study investigated a framework for digital archiving to spearhead access to heritage information for all interested clients in the sphere of influence in Africa.

METHODOLOGY

This qualitative study relied on a literature review to investigate a framework for digital archiving to spearhead access to heritage information for all interested clients in the sphere of influence in Africa. Literature was searched with the Google search engine, using keywords from the title and themes of the study, such as digital archiving, heritage information, archive access and the like. The search engine retrieved a list of websites containing information and publications relevant to the study with highlighted titles and a brief summary. The researcher was able to save time by selecting relevant articles and scanning the information according to the summary and titles without having to open each article from the search results. Some of the relevant sources were traced through the list of references in the relevant articles retrieved by searching directly using full bibliographic details. This was a simple method to reach any source available online, however, some of the sources were protected and payments or subscription fees were needed to access them. By getting other sources through one source that cites them is the best way to do snowball sampling, although some may no longer be available in the location cited

previously. The last resort is then to use the bibliographic details on Google to reach the new or alternative location if it is still available online.

PURPOSE AND OBJECTIVE OF THE STUDY

The purpose of the study was to investigate digital archiving to spearhead access to heritage information for all interested clients in the sphere of influence in Africa. The objective of this study was:

- to propose a framework for digital archiving to spearhead heritage information access for all interested clients in the sphere of influence in Africa.

DISCUSSION AND RECOMMENDATIONS

It appears that access to archival material in a physical format is widespread, whether in print or analogue. Access in the current era is difficult with the population dispersed over large areas and the few archival institutions mostly located in cities. The repositories or institutions housing archival material are located in closer proximity to affluent people who can afford to travel and make copies and who have access to technology and infrastructure. The majority of the poor and previously disadvantaged are removed far away from these institutions in marginalised and disadvantaged rural villages. For this reason, awareness of the concept "archive", the institution itself and the material it houses has always been unknown to the marginalised. Only very rarely would someone think of accessing information that is outside their consciousness. At no time, has archival institutions thought of making this group of the population aware of the availability of information pertaining to their national heritage and memory. Public programming and advocacy promotions are aimed at privileged people in close proximity to the institutions and repositories instead of targeting the poor and previously disadvantaged who are located in rural villages or township ghettos.

The advantage nowadays is that technology in the form of smartphones, laptops, social media and internet connection is also available in these poor and previously marginalised population areas. This is a great opportunity for archival institutions to extend their service using current technology to serve their clients across the country and beyond on the internet network. Users

92

may then access material at their homes or wherever they find themselves for any purpose, including discussions and dialogue on or to augment the history of the country. The information may also be used to review history books and other publications. This, in turn, may resolve the problem of traveling cost and time, the distance to the institution or waiting on others using the same material.

Although access may be provided online through the computer network, software and hardware, access may still be controlled through current technological developments. The same current manual mode of access could still be applied with legislation and policies in place to regulate users' access and sharing of restricted information or material. Some of the restricted material may still require physical access in case the technology is not secure enough. For instance, security measures and legislation may place strategic restrictions on making copies or taking photographs and issue alerts if this happens. A document may have a watermark signature once a user logs in to use it in case it is leaked or ends up in the wrong hands. Users may be allowed to place an access request for particular material through an embedded internet system, and approval may be granted or denied based on specific reasons within a reasonable period. The conditions of access and denial may need to be covered in the legislation and policies to avoid them being judged as unfair. It must be made clear that this condition is applicable to every requester or citizen. Generally, access to prestigious heritage archival material is important to all citizens as well as researchers.

Government needs to keep abreast of the growth in technology. The generation of today is no longer interested in manual ways of doing things, including accessing information. The younger generation is addicted to trends in computer technology such as working, reading, playing and travelling online. For example, food from most restaurants and supermarkets are ordered online and delivered physically to the client's doorstep, since technology is not yet capable of transporting such material through the network. In contrast, libraries subscribe to books and journal articles for users to access online, which is also possible with the archives' repositories.

Proposed Framework for Digitisation of Archive Material

The study found it necessary and important to come up with a framework to guide archival institutions in moving from a manual mode of information access to the electronic, digital mode of preservation and access. Figure 1

provides a framework that illustrates digital archiving to spearhead access to heritage information for all interested clients. As illustrated in the figure, at point **A** the records-creating institution will need to continue with the appraisal and disposal of its records with different values. Different methods suitable to each institution is needed to destroy ephemeral records, for example shredding or burning. Shredded records may even be recycled with appropriate companies based on agreements, which may generate revenue for the institution. Ephemeral records are destroyed since they have short-term value. However, archival-value records or records with enduring value may need to be transferred to archive repositories following appropriate procedures as set out by the archival institution and as informed by national and institutional policies and procedures. At point **B** at the archive repository, records with enduring value from creating institutions will need to be organised and arranged as guided by legislation, policies and procedures to ensure safekeeping and ease of access. After these arrangements, the archival institution may have to scan all print records at point **C**, to convert them to electronic images like portable document format (PDF) at point **D**, to be captured into the archive's electronic system at point **E**. The analogue format archival material at point **C**, may also need to be converted to a digital format and captured in the archival electronic system at point **E**, for ease of access. This is unlike digital electronic records at point **C**, that just need to be captured at point **E**, as received from the creating institution without changing anything, unless there is a need for format changes based on system requirements. The processed digital archival material must then be duplicated into the cloud computing platform at point **F**, to provide backup and access to the users in the archival institution's sphere of influence. In so doing, different users located in different communities whether urban or rural will have an opportunity to access the material online at their own time and place. Millions of users may also be able to access the same material at the same time regardless of who retrieved it first. All the activities throughout the process should be guided by legislation, policies and procedures to ensure that institutions operate within the government's legal mandate and obligation. The national legislation and policies in the case of South Africa may include the National Archives and Record Service Act, Promotion of Access to Information Act, Promotion of Administrative Justice Act, Protection of Personal Information Act, Minimum Information Security Standard, Copyright Act, Intellectual Property Laws Amendment Act and several national archive policy guidelines. This will ensure that institutions do not work against any government legal mandates. Each of the institutions, including the archival institutions, must develop and

Figure 1. Framework for digital archiving to spearhead access to heritage information for all interested clients
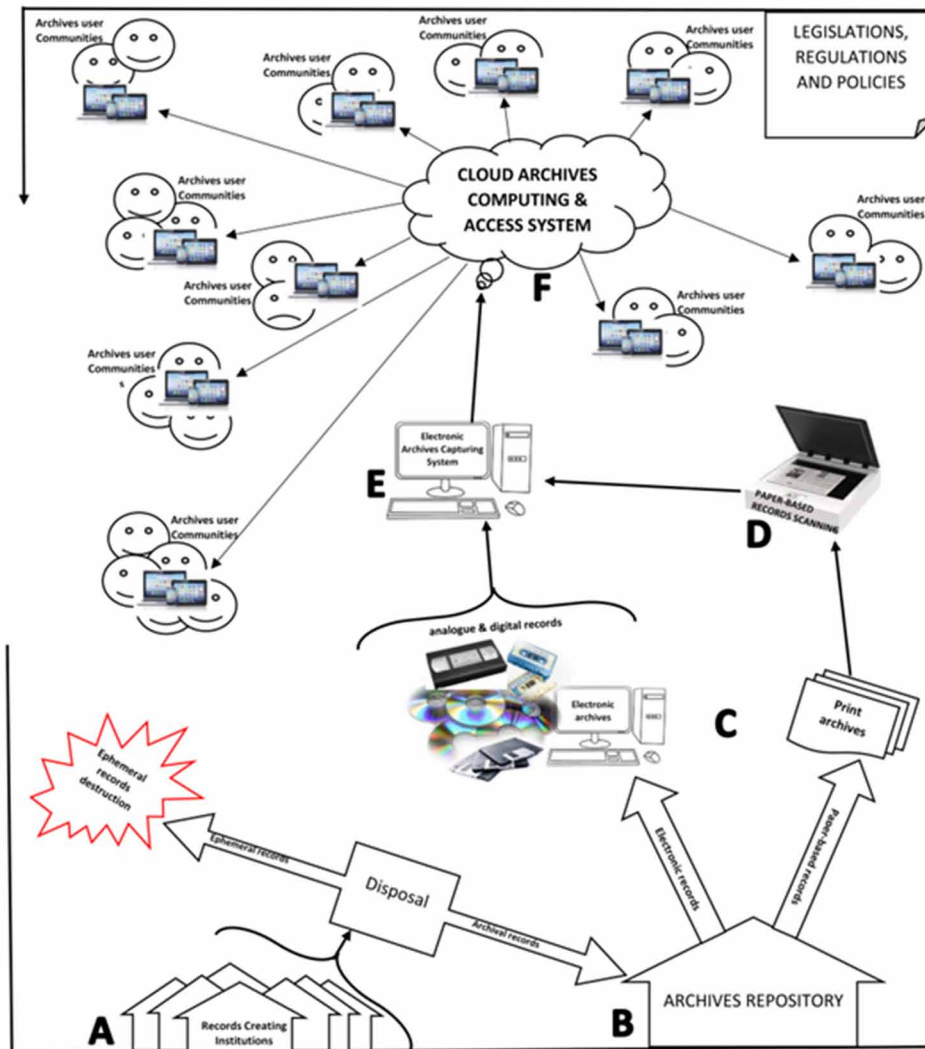
implement their institutional policies and procedures based on the national legislative obligations and mandates to avoid misinterpretation on the ground by hands-on officials.

It is hoped that this framework will simplify the implementation of the recommendations in this study as a benchmark for any country or institution that may be interested in improving access and preservation of its material

95

in a digital manner. Although most of the examples in this study are based on African countries like South Africa and Zimbabwe, its focus is not on a specific country per se but on any country in the world. Archival repositories must be at the centre of national memory, historical proof and evidence, and storytelling.

FURTHER RESEARCH DIRECTIONS

This study was focused on the digital archiving to spearhead access to heritage information for all interested clients in Africa. It is recommended that further studies be conducted to investigate digital archiving systems and archives management in more details to ensure that both the records creating organisations and archival institutions are able to maintain the life of archival records forever as required, since such records has a permanent value and will forever be useful and required for different reasons in the community.

CONCLUDING REMARKS

It appears clear that archival users in communities have great difficulty in accessing their heritage material with archival institutions not realising or appreciating what is at stake. Archival institutions do not seem to realise that people in certain communities may need to access and view their material because these citizens do not demand access, nor may they be aware of the existence of this material or the archival institutions themselves. This implies that both archival institutions and users are not aware of each other, and the question is "who must approach whom"? It is believed that archivists are responsible to make their institutions and material popular or known. They need to advocate for the importance and need to access this material through public programmes and promotions. Once they have popularised this material, they must also ensure that access is not a problem or another burden to their users. Instead, they need to pull out all the stops to satisfy the needs of their current and prospective users. They need to study the interests and needs of their clients or users, especially when it comes to technology and mode of access. Accessing archival material should not be a big undertaking that requires time, energy and money from users. In addition, archival institutions may consider aligning themselves with projects that collect oral history from different communities to integrate information that has not been recorded and

96

are in the memories of the people who are still alive to benefit generations to come.

REFERENCES

Abbot, B. (1999). *Preserving electronic memory: an investigation into the role played by the National Archives of South Africa in the management of electronic records of central government* [Unpublished Masters dissertation]. University of Natal, Pietermaritzburg, South Africa.

Archives New Zealand. (2015). *Access*. https://archives.govt.nz/manage-information/resources-and-guides/operational/access

Asogwa, B. E. (2011). Digitization of archival collections in Africa for scholarly communication: Strategies, and Challenges. *Library Philosophy and Practice (e-journal), 11*, 651. https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1725&context=libphilprac

Blais, G., & Enns, D. (1991). From paper archives to people archives: public programming in the management of archives. *Archivaria, 31*(91), 101–113. https://archivaria.ca/index.php/archivaria/article/download/11723/12672/0

Cloonan, V., & Sanett, S. (2002). Preservation strategies for electronic records: Where we are now – obliquity and squint? *The American Archivist, 65*(1), 70–106. doi:10.17723/aarc.65.1.ak0537t86l2715wv

Dunlop, J. (2009). Policies and services in the reading room. *ESARBICA Journal, 28*(1), 222–229. doi:10.4314/esarjo.v28i1.44405

Ericson, T. L. (1991). Preoccupied with our own gardens: outreach and archivists. *Archivaria, 31*, 114–122. https://archivaria.ca/index.php/archivaria/article/view/11724

Garfield, S. (2017). *Archiving, document management, and records management*. https://stangarfield.medium.com/archiving-document-management-and-records-management-6622023eb488

Harris, V. (1992). Public access to official records and the records management function of the South African State Archives Service. *Innovation (Abingdon), 4*, 12–16.

Hlophe, P., & Wamukoya, J. (2007). Utilization of archival information at Swaziland National archives by researchers at University of Swaziland. *ESARBICA Journal*, *26*(1), 65–85. doi:10.4314/esarjo.v26i1.31016

International Council on Archives (ICA). (2013). *Principles of access to archives.* https://www.ica.org/sites/default/files/ICA_Access-principles_ EN.pdf

Jesuits in Britain Archives. (2015). *Access policy*. https://castrial.files. wordpress.com/2016/11/access-policy.pdf

Kilasi, M., Maseko, A., & Abankwah, R. (2011). A survey of national archives reference services in Swaziland and Tanzania: An examination of the expectations and behaviour of users. *ESARBICA Journal*, *30*, 102–114.

Kintronics. (2021). *Archiving summary*. https://kintronics.com/solutions/ archiving-systems/

Koopman, J. (2002). *Staff attitudes toward access and outreach to archives in KwaZulu-Natal, South Africa* [Unpublished Masters dissertation]. University of Natal, Pietermaritzburg, South Africa.

Loewen, C. (2008). Transformation, exploration, innovation: Library and archives Canada's access policy framework. *Archives and Manuscripts*, *36*(2), 148–168.

London School of Economics. (2021). *Access archives and special collections*. https://www.lse.ac.uk/library/using-the-library/access-archives-and-special- collections

Marutha & Mosweu. (2020). *Confidentiality and security of information in the public health-care facilities to curb HIV/AIDS trauma among patients in Africa*. Global Knowledge, Memory and Communication. doi:10.1108/ GKMC-06-2020-0089

Mazikana, P. C. (1999). Access to records: conditions and constraints. In *Proceedings of the 15th Biennial General Conference of the Eastern and Southern Africa Regional branch of the international Council on Archives and the protection of people's rights*. Pretoria: National Archives of South Africa.

McCausland, S. (1993). Access and reference services. In Keeping archives (2nd ed., pp. 273–305). Port Melbourne: The Australian Society of Archivists Inc.

Menou, M. J. (1991). National information policy in the less developed countries: An educational perspective. *International Library Review*, *23*(1), 49–64. doi:10.1016/0020-7837(91)90026-V

Murambiwa, I. M., & Ngulube, P. (2011). Measuring access to public archives and developing an access index: Experiences of the national archives of Zimbabwe. *ESARBICA Journal*, *30*, 83–101.

National Archives of Zimbabwe. (2012). *About National Archives of Zimbabwe.* http://www.archives.gov.zw/index.php/home

National Museum of Natural History. (n.d.). *Collection and archives access.* https://naturalhistory.si.edu/research/anthropology/collections-and-archives-access

Ngoepe, M., & Ngulube, P. (2011). Assessing the extent to which the National Archives and Records Service of South Africa has fulfilled its mandate of taking the archives to the people. *Innovation*, 42.

Ngulube, P. (2002). Future of the past: Access to public archives in southern Africa. *Historia (Wiesbaden, Germany)*, *47*(2), 563–582.

Ngulube, P. (2006). Nature and accessibility of public archives in the custody of selected national archival institution in Africa. *ESARBICA Journal*, *25*, 106–124.

Ngulube, P., Sibanda, P., & Makoni, N. L. S. (2013). Mapping access and use of archival materials held at the Bulawayo archives in Zimbabwe. *ESARBICA Journal*, *32*, 123–137.

Nicholson, D. R. (2020). *Why South Africa's copyright bill is good for digital archives*. Available at: https://www.wits.ac.za/news/latest-news/opinion/2019/2019-10/why-south-africas-copyright-bill-is-good-for-digital-archives.html

Serene, F. H. (2011). *Making archives accessible for people with disabilities*. National Archives and Records Administration.

Shepherd, E., & Yeo, G. (2003). *Managing records: A handbook of principles and practice*. Facet Publishing Ltd.

South African Western Cape government. (2017). *Access archives*. https://www.westerncape.gov.za/service/accessing-archives

The Conversation. (2021). *For the record: Digitizing archives can increase access to information but compromise privacy*. https://theconversation.com/for-the-record-digitizing-archives-can-increase-access-to-information-but-compromise-privacy-155364

The US National Archives and Records Administration. (n.d.). *The center for legislative archives, National Archives closures*. https://www.archives.gov/legislative/research/getting-started/access.html

Venson, S. L., Ngoepe, M., & Ngulube, P. (2014). The role of public archives in national development in selected countries in the East and Southern Africa Regional Branch of the International Council on Archives region. *Innovation*, 48.

Wilson, I. E. (1991). Towards a vision of archival services. *Archivaria*, *31*(Winter), 91–100. https://archivaria.ca/index.php/archivaria/article/view/11722

Zolotarevsky, M. (2010). The information retrieval needs of archival users: a case study from the Jabotinsky Institute, Israel. *Comma: International Journal on Archives, 2*, 47–53.

Zulu, S. F. C. (2008). Intellectual property rights in the digital age. In *Knowledge and information management in the digital age: concepts, technologies and African perspectives*. Third World Information Service.

KEY TERMS AND DEFINITIONS

Archiving: Archiving refers to keeping of records with an enduring value in the archives repository for public consumption. This may be for different reasons, including research.

Digital Archiving: Digital archiving refers to archiving of archival materials in a digital form. For instance, recorded materials that were created electronically in a digital form are archived in the archival repository using appropriate electronic system for ease of access in the future. On the other side archival materials or records with an enduring value that were created in different form, be it analogue or paper-based is converted into digital and archived using appropriate archival system. Such kinds of records will eventually need computer technologies and equipment for access and retrieval.

Heritage Information: Heritage information has to do with information that present culture and traditions of doing things in the organisation or country. For instance, in the case of organisation or government institution this may include the how to do in different administrative activities.

Interested Clients: Interested clients refers to archival users interested in a particular information or those affected by archival information or people who will need such archival information in future for their respective personal or business or research activities.

Records: Records refers to information that is recorded during the business transaction or business communications with an intention to trace back the history in future when need arise to prove current decisions, best solutions for problems and ensure accountability.

Spearhead Access: Spearhead Access refers to leading the process of accessing the information in the archive repository. In other words, digital archiving may be used to lead the process or possibility of making information accessed or accessible with ease and in time.

Chapter 6

Archival Institutions to Worry About Records Management Modus Operandi for Impact on Their Future Holdings

ABSTRACT

This study investigated circumstances in which archival institutions are supposed to worry about records management modus operandi in creating institutions as the situation will eventually impact their future holdings. The study relied on a literature review to study the situation in which archival institutions are supposed to worry about records management modus operandi. The study discovered that archives appear to be not worried about what is happening to archival records in the creating institutions before records are transferred to archives repositories. Archival records are supposed to be transferred to an archival repository after 20 years from the date of creation, but some government institutions are more than 30 years old without a single record submitted for archiving and still archives do not worry about the situation. The study proposes a framework through which archival institutions may guard against the improper handling of records before transfer to archives repository.

INTRODUCTION AND BACKGROUND

The term, "archives" can refer to institutions housing archival materials, archival materials themselves, or, the storage in which archival materials are kept, also known as an archival repository (The US National archives and records administration, 2016 a). Archives may also be defined as "collections of documents or 'records' which have been selected for permanent preservation because of their value as evidence or as a source for historical or other research" (National Archives of UK, 2016). The US National Archives and Records Administration (2016b) describe archives as follows:

an archive is the repository of the permanently valuable records of an organisation. Such records are traditionally transferred to an archive, both physically and legally, when the organisation that created them no longer needs them in the course of business. Archival records then become available to researchers who use them not only to document the history of the organisation that created them but also to research the society of which that organisation is part.

Archives, as an institution, are concerned with proper management and lives of records with enduring value simply because such records are important for the future generation (Brunskill, 2012). There is a major reason archival institution need to worry about records management modus operandi in creating institutions since they depend on institutions for them to have archival resources for their clients. "Archives is supporting a framework of collection strategies to ensure that records are kept of events and of the lives and activities of individuals and communities, and of public, private and charitable organisations" (National Archives of UK, 2016). National Archives of UK (2016) further elaborate that:

The first purpose of managing records is to meet the business or operational needs of an organisation or person, allowing it to function effectively. While the records are meeting these needs, they are in 'active use'. When they are no longer needed in active use, they are reviewed to decide which should be selected to become part of an archive collection. This cultural and historical research value is their second purpose. Records that are not selected for permanent preservation should be destroyed when no longer needed.

Remember that if they contain sensitive or confidential material they must be destroyed securely – they should never be disposed of with general waste or recycling.

The National Archives of UK (2016) shows clearly that records are created by different institutions during the discharge of different administrative activities and few periods after creation such records remain important and useful to the same organisation but thereafter, they become useless to them. Some records after termination from creating an organisation become valuable, or useful to the general public for different reasons including access to historical information, for research, keeping memory and heritage for the country. These kinds of records eventually form part of the archival collection in the archives repository, depending on their value. This type of repository is a specialist archives records collecting institution for safekeeping and open access to users in the general public. Archival collections are normally kept in the institutions' named archives, and even some of the libraries and museums keep archival collections. These institutions, at times, become attached to government, schools, and institutions of higher learning, churches, arts organisations, or community groups (National Archives of UK, 2016). These organisations should take responsibility to ensure that records of archival interest are managed with care from the day they are created until they are handed over to the repository for permanent preservation.

These kinds of records need proper care from the time they become created to ensure that they last forever. Oweru and Mnjama (2014) underscore that in most instances' records are created in an environment that is not stable with a lot of factors that are either biological, natural, or manufactured and rough handling. At times they are also created from papers that are inferior with acid ink that is not permanent. Due to environmental factors, records are also vulnerable to various kinds of disasters, whether natural or manmade, technology that becomes obsolescence with the passing of time, which also bring the challenge of hardware and software compatibility during migration. These may result in access to the valuable records being impossible or difficult if they may still be accessed (Oweru & Mnjama, 2014; Ngulube, 2003).

Still these records impact the quality of service and products they render to citizens and clients in general. What is created in the administrative institutions impact decimally on archives' future holdings. Therefore, it is imperative that archival institutions should worry and do something about archival materials created and managed even before they are transferred to archival custody for public consumption. For instance, in the records creating

institutions, organisations are mostly concern about the records during the stage or period when they are still useful for their administrative purposes; once they become terminated and less utilised records are then neglected and dumped all over the institutions. Sometimes such records are even dumped in the useless building without security measures and protection against damage and theft. At this stage, archival records are now useful for archival institutions and their clients. National Archives of UK (2016) underscore that archival records are important to different people other than the organisation that created them, and this includes the entire nation and its regions, other organisations, and communities as well as individual people in public. The archival collection keeps valuable information for and about the people such as evidence and stories about the past activities and functions discharged which may be used for research and national memory and heritage, history, and culture for the nation (National Archives of UK, 2016).

"Risk cannot be avoided completely and even if you are well-prepared, events happen which can damage buildings and the archives stored in them" (National Archives of UK, 2016). This implies that archival institutions should be proactive and take the first step in rescuing the records with enduring value before they are negatively affected. In this case, archival institutions need to take this upon themselves and make it a priority project. They may need to conduct necessary activities such as site inspections at an institutional level where records are created and managed. The archival institutions also need to conduct training and workshops that will also serve as a revelation to the creating institutions about the importance of proper handling of records, especially those with enduring values. The archival institutions need to develop guidelines for the institutions to follow the best practice that is secured for such records. The guidelines must cover issues pertaining to the proper handling, arrangements, organising, and transfer to archives among other things. The archival institution must take stock of all the key institutions that are supposed to transfer archival records to their repository, pay them regular visits for inspection and verbal guidance as well as workshops. Records creating institutions need to be educated about archival records, their importance, handling, processing, and use. There is a need for an archival institution to keep records about the transfer of enduring value records for each institution so that they may see or track when nothing has been submitted for more than twenty years.

Generally, if records are not properly managed at the creation level this may affect the accuracy, trustworthiness, completeness, authenticity, integrity, and usability of such archival materials. Nevertheless, archival institutions

may need to apply records forensic and archival diplomatic to ensure that whatever archival records they housed is dependable and valid. Generally, archival institutions will need to take it upon their shoulders that records are responsibly managed at the administrative level, assign appropriate and workable responsibility to themselves, and identify and eradicate all risks affecting archival records at all stages. other than this record of enduring value may get damaged, destroyed, fade and dilapidated at their early ages when still in the hands of the creating institutions. The great challenge is that records creating institutions are only concern with the life of records only during the period when they are required to support their business and once they are no longer needed for the business they do not care what happens to such records. That is the reason such records are even dumped in an unpleasing condition including toilets and old useless and unrenovated and unsecured buildings. Archival records are important for the entire nation and are supposed to be at the heart of the state. National Archives of UK (2016) underscore that archival institutions should take a step in the security of records with archival value to ensure that all protective and securing measures are in place for such records. Although the archival institution may not physically implement these measures at the primary stage when records are within the creating institutions steps will need to be taken to assist and enforce the institutions to ensure the implementation of safety measures. In so doing archives will have done something to prevent the wrongdoings that may affect the life of the records with enduring value (National Archives of UK, 2016).

These kinds of records keep the memory of the nation forever for the entire citizens, general researchers, and many other interest groups as a heritage for the country. History books and articles are written through these kinds of materials. The materials may be used as a research population and literature for a background to the study. The future generations are also able to follow the origin and growth in different issues through archival materials. For instance, future and current generation may be able to learn about different government modus operand from year to year going back. Some politicians may also be able to follow and trace the past mode of operations going forward to learn how things were wrongly or rightfully conducted in the past to follow the good and avoid the bad or wrong modus operandi in different governmental functions in the past leadership. In so doing the nation will be improving in terms of performance in different areas which may also positively affect economic growth. So, this implies that without keeping the memory for the nation for leadership reference is as good as operating from the dark or just moving forward without knowing where we wish to arrive. As a nation, you

106

may be surprised to find that you arrive at the ocean in front and there is no way out but to just collapse.

ARCHIVAL RECORDS PRESERVATION AND MANAGEMENT

Archival records are especially important not only to the institution that created them but also to the entire public or community at large since it carries information considered heritage to the nation. As such these kinds of records need to be properly preserved to last as long as they are required. In most instances, these records are important forever since even many future generations will still be interested in them. This implies that care should be taken at all stages of its life. The best thing is to plan for such records even before they are born or created during business planning so that proper handling may commence from the day they are created and come into existence. The best thing to secure archival records is to ensure proper preservation. This will help in prolonging the life span of these heritage materials for long time access by different stakeholders including government departments, agencies, institutions, and the entire community (Ngulube, 2003; Oweru & Mnjama, 2014; Forde, 2007). It is wasteful for the organisation of government to spend so many resources in creating such important memory only to suddenly get lost due to negligence in proper preservation. Preservation should be used as a cornerstone for making continuous access to archival heritage materials for a countless number of generations to come (Cloonan, 2001; Oweru & Mnjama, 2014). It is a great idea that archival institutions should take control of the creating institutions through legislation and guidance including acts and policies that gives directives and obligations on how records of enduring value should be handled at the administrative level of such organisations. In so doing organisations will find themselves forced to do the right things at all times. For instance, the National Archives of UK (2016) shows that "archives need to be stored in conditions which are cool, dry and seasonally stable, with minimum exposure to natural or artificial light and protection from pests, pollution and access by unauthorised people". They further state that the records storage should only be used for its purpose. In other words, nothing should be stored there other than records per se. These may be properly set and enforced through legislation and policies.

Archives should put it upon their shoulders to ensure that records of enduring value are effectively managed at all stages of the records life cycle until they arrive at the archival repository for preservation. Archival records are important and useful throughout the stages of its life for varied reasons. One of the reasons at early ages is to support administration and eventually during its older ages provide and keep information about legal obligations, historical knowledge, and support for research (Ngulube, 2003; Shepherd & Yeo, 2003; Oweru & Mnjama, 2014). Proper preservation will help archival institutions to keep properly information that may serve as evidence about how things were done in the past whether economic, political, social, and culturally within the country or a particular community. This kind of information may be used in future to educate, entertain, inform, and protect the people's rights in different ways including the rightful ownership of land and other properties (Oweru & Mnjama, 2014). For instance, the information preserved may prove the rights to privilege and ownership in terms of many things including the land claims. Archival institutions and or archivists should be concerned about how records are preserved, stored, and managed at various levels of their life from the creating institutions to archival repository levels. That is the reason preservation have to be considered fundamental in the management of archival information assets. It is high time that archivists consider the preservation of archival material as their central activity among other responsibilities (Oweru & Mnjama, 2014; Millar, 1997; Schellenberg, 1971). Records preservation also has many levels depending on the stage of the life of records, which include practical and ordinary levels according to Ngulube (2003). During the practical level of records, preservation archivist should consider maintaining, examining, conserving, and restoring the records depending on their condition, while during the ordinal level consideration are given to the records storage and usage. The idea for records preservation is to protect the records against damage and loss from different perils including chemicals for cleaning and handling damage as well as various kinds of disasters (Oweru & Mnjama, 2014). Archival institutions may need to ensure that disaster preparedness and management plans are in place, so that come disaster people know which actions to take in preventing, fighting, and recovering. National Archives of UK (2016) shows that

The first thing to do is think of the things that can go wrong; then look at what steps you can take to prevent things going wrong; then plan what to do if despite your efforts things do go wrong and there is an incident of some sort. The major risks are fire, flood, theft, and unauthorised access.

108

Different kinds of disaster may result in the nation losing its archival materials which are supposed to serve as heritage and memory in the country. As the National Archives of UK (2016) shown fire may be the most dangerous disaster striking the archival collection. This is because, with fire usually, the damage is not recoverable unless the organisation kept backup copies somewhere away from the archival location. With the fire disaster records may be damaged to ashes and as such information is lost for good. This kind of disaster organisation avoids it with the use of fireproofing storage rooms with smoke detectors to alert officials in time so that they act before the damage commence. So, archival preservation storage should be built with these kinds of disasters in mind to ensure that they are prevented by all means. Fire disasters should always be prevented from happening at all times because the damage may not be recoverable. the other kind of disaster is that caused by water flooding due to poor drainage for rainwater which results in flooding storage as well as leaking pipes crossing the storage. So, the building should purposively build to avoid water disasters emanating from roof leaking, crossing pipes, and many more. Archives are also vulnerable to theft in case access to the repository is not properly controlled. Archival materials should be protected against theft, deliberate damage to also ensure maintenance of their integrity and authenticity. Organisations need to have a disaster management plan to avoid all the risks that may end up damaging or fading the archival records (National Archives of UK, 2016).

Archival institutions should take the lead to ensure that organisations that create records and feed their repository have all the disaster management plans, skills and resources in place. Should the disaster strike they can deal with it decisively. The policies, procedures and guidelines should cover all the important things that may enable the organisation to protect and maintain the quality of the archival records. This may include storage conditions, avoiding chemical cleaning materials, shelving set up and types, lockable doors, avoiding dumping to storage, regular fumigation and baiting, cleanliness, boxes, and folders maintenance as well as classification and security levels of the materials. Records if not properly taken care of will deteriorate over time and as such the nation will lose memory, heritage, and history. As such, there is a need for proper protection against environmental changes and disasters such as those from fire, water, pests, theft dust and only to list a few. Organisations should be guided from dealing with environmental effects that may damage records such as ventilation, air circulation, ultraviolet lights, temperature, and relative humidity. Different technologies may be installed to deal with the detection and prevention of these hazards (National Archives of UK, 2016).

It is noted as a great concern that most archivists are still not seeing the preservation of archival material as something to prioritise or important since there seems to be less attention in proper implementation. As such this put archival materials at significant risk of getting damaged or lost sooner than expected (Oweru & Mnjama, 2014; Ngulube, 2003). some many discrepancies and barriers also contribute to negligence in the preservation of archival materials. These include, for instance, insufficient budget allocation or financial support, storage facilities that are not sufficient, lack of skills and competency emanating from untrained staff (Kemoni 1996; Eden & Feather, 1997; Oweru & Mnjama, 2014; Forde, 2007; Ramokate, 2006) and lack of policies, strategies, and operational guidelines for preservation among other things (Eden & Feather, 1997; Ramokate, 2006). Challenges or barriers to the preservation of records as archival assets is not exclusive of records in an electronic format. Electronic archival records preservation is also challenged with insufficient personnel to discharge preservation activities and functions, insufficient equipment, and other tools missing electronic records, obsolescence hardware and software, outdating storage media and high production of records (Ngulube & Tafor, 2006; US General Accounting Office, 2002; Oweru & Mnjama, 2014). National Archives of UK (2016) underscore that

An archive needs a consistent and reliable commitment of resources and the first step to secure this is a specific archive budget for conservation materials, equipment, and other archive expenses. Without these resources, the collection is unlikely to reach its full potential, to continue to grow and be effectively preserved. They are more likely to be provided if you can show that the archive can contribute to your corporate identity and support your organisation's activities.

Like for many other different administrative activities, preservation of archival materials also needs to be guided with the legislative framework for different functions, activities, and decisions (Oweru & Mnjama, 2014). "Policies and standards are produced to support the long-term sustainability of archives, wherever they are" (National Archives of UK, 2016). They further elaborate those policies provide for the best practice in archives management for the organisation since they set standards and principles for operation. National Archives and records service of South Africa (2016) underscore that the National Archives of South Africa being guided with legislation known as the National Archives and Records Service of South Africa Act (Act No.43 of

110

1996 as amended) on how records and archives should be managed or how it should be practised for the government institutions. It is with the obligations in this legislative framework that the National Archives of South Africa is mandated to investigate whether the classification system at respective organisations meets the requirements for accountability and transparency before approving it for implementation. Also, investigate records that are due for disposal before approval for disposing them. The legislation also mandates archival institutions to investigate for approval for the conversion of materials to microfilm and other electronic formats. The national archives are also mandated to regularly inspect compliance to the Act in different institutions creating and managing records. This is why the archival institutions were also charged with the responsibility to issue directives to organisations pertaining to proper records management. Overall, the archives are mandated to provide training to all responsible stakeholders in creating institutions pertaining to records management principles and practice as well as the requirements of the national archives, including "records managers, senior administrative officials, training officials, work-study officials and registry heads" (National Archives and records service of South Africa, 2016).

Archival institutions must ensure that institutional information resources are protected throughout the life cycle from the time they were born till disposal. They should take charge in ensuring that different responsible institutions comply with different guidelines including legislations, policies, and procedures as well as directives issued by the archives. Records safety must be improved in different ways including the way recorded information flow from in and out of the organisation. Among other things, archives must ensure that every institution has established functional records management components with policies and plans for proper records management. Archives must make a provision for the collection of archival materials, its promotion and access by relevant clients or citizens. The archival institution should serve as an advisory body to institutions creating records to ensure that records are effectively managed and taken diligent care of at all times. In their support they may need to provide advice to records managers about records management activities and also review and approve policies, procedures, and standards for institutional records management from creation to disposal (Society of American Archivists, 2021).

According to Mosweu and Simon (2018), the archival legislation in Botswana, the National Archives Act of Botswana give a mandate to the National Archives and Records Services to collect archival information assets, preserve them and make them accessible to the public. This implies

that it is the responsibility of the archives to ensure that the records in question are maintained in good quality at all times until transferred to the repository. This also means that it is not a choice but a legislated obligation that archival institutions under the leadership of archivists discharge this as their responsibility. Ngoepe & Keakopa (2011); Mnjama (2010); Sebina (2006) shows that it supposed to be a legislative obligation that archival institution provides guidance to assist institutions with advanced management of archives and records in the country and this was not properly discharged in Botswana as Mosweu and Simon (2018) attest. National Archives Act of Botswana also had some gaps as it failed to address matters pertaining to records management as an archival mandate but instead only focused on archival materials identification, preservation, and provision of access (Sebina, 2006; Mosweu & Simon, 2018; Botswana Government, 1978). Archival legislation should be used as a tool to provide a mandate and authority in management and administrations of archives and records and should try and cover all the spheres of archives and records (International Council on Archives 2004; Parer, 2000; Mosweu & Simon, 2018), including formats and medium like paper-based, microfilm, audio-visual and electronic (Ngoepe & Saurombe, 2016). Proper and complete archival legislation covering the entire scope of archives and records management may assist in enforcing compliance and accountability of the archival institution for both archives and records located in different settings or institutions (Conture & Lajeunese, 1994; Mnjama, 2014; Mosweu & Simon, 2018). Section 3 of the National Archives Act of Botswana (1978) the archival institution or archivist is charged with the responsibility to support government agencies with the provision of proper information and records management besides collecting, preserving and provision of access to archival materials (Botswana Government 1978). This is the same mandate by the National Archives and Records Service of South Africa Act (1996) (South African government, 1996). Mosweu and Simon (2018) shows that the archival institutions in Botswana have a legal obligation to support organisations with processes of proper recordkeeping but they never being available for these organisations. This is because the records generated and managed in these organisations should eventually land in the archival institution for permanent preservation and access to the citizen. This also has resulted in most organisations perfuming poor in terms of records management with most operating without policies and procedures (Kalusopa, 2011; Mosweu and Simon, 2018). Archival legislation should focus on addressing issues and matters pertaining to management of all kinds of records from creation to disposal, which entails how they should be

112

created, maintained, accessed, and disposed of (Mosweu and Simon, 2018; International Council on Archives, 2004). due to gaps in the legislations organisations in the country remain confused as to how certain formats and mediums of records should be managed (Keakopa 2013). The National Archives and Records Service of South Africa Act (1996) and The National Archives and records service of Botswana Act (1978) provide for a mandate for the organisations and individuals to submit archival information materials to archive repository (Botswana Government. 1978; Mosweu & Simon, 2018). Mosweu and Simon (2018, p. 88) further elaborate that

the NARS Act gives the department the power to control records created in the public service. However, this has created problems because heads of departments do not value or prioritise records management issues. The Records and Archives Management Act of Tanzania has given the heads of the department across public offices and parastatals records-keeping responsibilities and also clearly stipulates that the heads cooperate with the Head of Records and Archives Management Department.

PROBLEM STATEMENT

The problem that triggered this study is that archival institutions, especially government or public archival institutions are too dependent on the creating institutions. This dependency involves many things, including but not limited to ensuring that all enduring value records are transferred to the archival repository when they are due and that all records with archival value are managed properly to survive throughout their life span. Due to poor management of such records, some of them turn to fade, damaged, lost or altered before they reach their archival retention period as alluded to by Oweru & Mnjama (2014); Ngulube (2003). In this case, archival institutions fail to make their collection complete and accurate. The burden starts when clients start requesting access to records about certain incidents or occasion that was never archived. The challenge is because archives users do not request materials or information based on availability or what they find to be available but instead some of the users request information based on past incidents or occasions informing or affecting their studies or research or investigations. Users are also able to identify which repositories are supposed to have specific archival material with the information they require in their holdings.

Experience shows that government archival institutions, especially in Africa do not seem to be worried when archival materials are not submitted from different government institutions including departments, agencies, and municipalities. There are many government institutions that since their establishment they never submitted any records for archiving to the archives' repository. Yet to the archival institutions that seem to be no problem. In this situation archival records are just dumped with ephemeral records and old furniture in one useless and dilapidated building. The other bigger worrying factor is that some records with enduring value completely get damaged and fade without being deposited to the archival institutions as legally required. The question is, do archival institutions reach out to provide support to the creating institutions, in a form of inspection, training and provision of guidelines and directives. If this is not discharged does the archival institution discharge its mandates and obligations as stipulated in the archival legislation? For instance, the National Archives and Records Service of South Africa Act No. 43 of 1996 stipulate that the National Archivists is charged with the responsibility to ensure proper management of records across the government bodies (South African government, 1996). Mosweu and Simon (2018:73); International Council on Archives (2004) also attest that archival legislation should not only focus on the management of records in the archival custody but focus must be on the management of records throughout its life cycle from the day it is created. Otherwise, when archival institutions open their eyes during the last stage of disposal some records will no longer be available due to some perils during other stages of their life. Archival materials are one valuable asset for the country to which without, the country lacks memory, heritage, and resources for future research.

METHODOLOGY

The study applied literature review to study archival institutions worries about records management modus operandi as impacting on their future holdings. The literature was searched using the Google search engine through the keywords from the title of the study. The keywords used to search the literature including but are not limited to archival institutions, archives preservation, archival value records, records management, modus operandi, archival holdings. Searching included single or combined keywords depending on the desired results. The Google search engine was then able to provide a list of results with theme and summary. The researcher was able to decide about opening a full article

based on the relevancy as guided by the summary. In opening the summary the Google search engine was then able to link the researcher to the article host site like websites or databases. At that level, the researcher was able to access full content and bibliographic details of the sources for citation and referencing after going through the content. Nevertheless, some challenges were faced during the literature searching in which case some sources only provided abstracts and required subscriptions and fees before gaining access to the full article, but this was not frequent. One advantage was that references in some of the sources were assisting in connecting the researcher to more other relevant sources as cited and listed in the list of references. This has made the researcher's work easier.

PURPOSE AND OBJECTIVE

The purpose of the study was to investigate archival institutions worries about records management modus operandi as impacting on their future holdings.

DISCUSSION AND RECOMMENDATIONS

It will never be overemphasised that archival institutions need to worry about how records from the creating institutions are managed from their creation until they reach the repository during disposal. This is by the time they are no longer useful for the institution that created them but still useful and valuable to the public for several reasons such as research, heritage, historical and to list only a few. This kind of record is even useful for the future generation that is not yet born since they will want to know how things are the way they are when they become matured and will need to trace the context through research and other means. Still, those who are still available may need to gather information and put it together in a form of publication or other means to be used with ease by a citizen or the public including future generations for years to come. The value of archival records is very extensive to an extent that one may not use monitory to measure.

Archival institutions need to serve as watchdogs and legal advocates for records throughout their life span at any location and time. This is because as much as some records get damaged and lost at their early ages this affect archival holdings big time because they will always have something missing or not available for their users. Archival institutions need to protect and house

115

archival records for users and in such a manner, they will be protecting their public rights of access to information as required by legislation promoting access to information, like the Promotion of Access to Information Act (PAIA) in South Africa. Other countries named it the Freedom of information Act. Archival institutions in the public bodies need to appear worried and wanting to know what is happening with records created across government institutions and other interesting private entities. Once they become aware of the status of such records they will want to intervene with solutions where there are some discrepancies, even though they will always need to be proactive in some of the prerequisite activities. For instance, activities such as training inspection, and development of guidelines and directives do not need to happen when there are problems but instead, they must be made available and implementation is monitored and corrected from the onset.

One of the things lacking in the archival institutions practices is advocacy and outreach programmes. Archival institutions are not limited to the housing of archival materials per se, but instead, they are also charged with the responsibility to preach awareness to the public in ensuring that their materials do not remain useless in the custody. Archival institutions need to organise talk shows that will enable them to popularise and advocate for their materials and institutions in different areas of the country such as schools and government functions. They may also need to initiate their own functions like Archives Week to invite professional speakers, display fliers, distribute brochures and where possible initiating competitions related to archival issues and activities. Prizes may include books addressing archival issues, archival tours, and stationery vouchers. This must include things that may enable people to always remember archives even long after the function. The archival institutions may also have an annual conference addressing issues pertaining to archives and records management, in collaboration with the archival professional bodies where necessary to keep the gospel preached all along. They may also add publications through the launching of a journal in which professionals may contribute their research works, as well as the newsletter that will be used as a tool for sharing best practices, achievements and new initiatives pertaining to archives and records management. The newsletter may not be limited to archival institutional issues but also cover what is happening across the institutions and when it is published it may need to be distributed extensively across the community and archival materials supplying institutions. More importantly, archives may also need to produce strategies for promoting themselves across different schools and malls. For instance, if you ask any learner or citizen in the malls about archives, shockingly, they

do not even know how to pronounce the name and they do not even know the meaning. This clearly shows they do not even know its nature and existence but how will they even know the location.

PROPOSED FRAMEWORK

The study produced a framework for an archival institution to control records management modus operandi for quality future holdings as in Figure 1. The framework shows from the onset that the basic tool in making archival institutions functional or discharge all required activities or functions is governance. Governance is made up of legislation, policies, procedures, and directives (governance tools) governing the management of archives and records. This will suddenly assure the organisation of responsibilities and accountabilities in discharging their functions as obliged by the governance tools. Archival institutions will receive obligatory stipulations from governance tools to discharge certain functions and activities without failure. The governance tools will provide stipulations about general archival materials administration, including materials collection, preservation, and access. In this case, a mandate will be given about where and how materials should be coming from and the role of the archivist in case the materials are not supplied and how these materials should be arranged in the custody, security measures and access should be provided by who and not who and how they may be accessed. The legislation should also stipulate activities involved in supporting institutions for the management of records before disposal and how they need to be disposed of, such as training, inspection, and approval of some functions like changing of records format, adopting an electronic system, file plan, to list only a few. Nevertheless, legislation should also stipulate obligations for the archivist to issue guidelines and directives pertaining to archives and records management activities and functions so that institutions and archival personnel do not use common sense in discharging their duties. This may also assure clear responsibility and accountability in the mismanagement and maladministration in archives and records management activities. Moreover, the other thing that legislation should stipulate as an obligation is an initiation of an outreach programme and archival advocacy. This will ensure that materials housed in the archival repository is used widely and does not remain useless to the community.

It is hoped that this framework will guide the government bodies in the creation of governance tools such as legislation, policies, procedures,

and directives. It will serve as a benchmark in the industry of archives and records management during the planning and implementation of strategies. Future scholars may also use it as a conceptual or theoretical framework in their studies to avoid leading astray. Generally, the study hopes to add more literature to the body of knowledge.

Figure 1. A framework for an archival institution to control records management modus operandi for quality future holdings
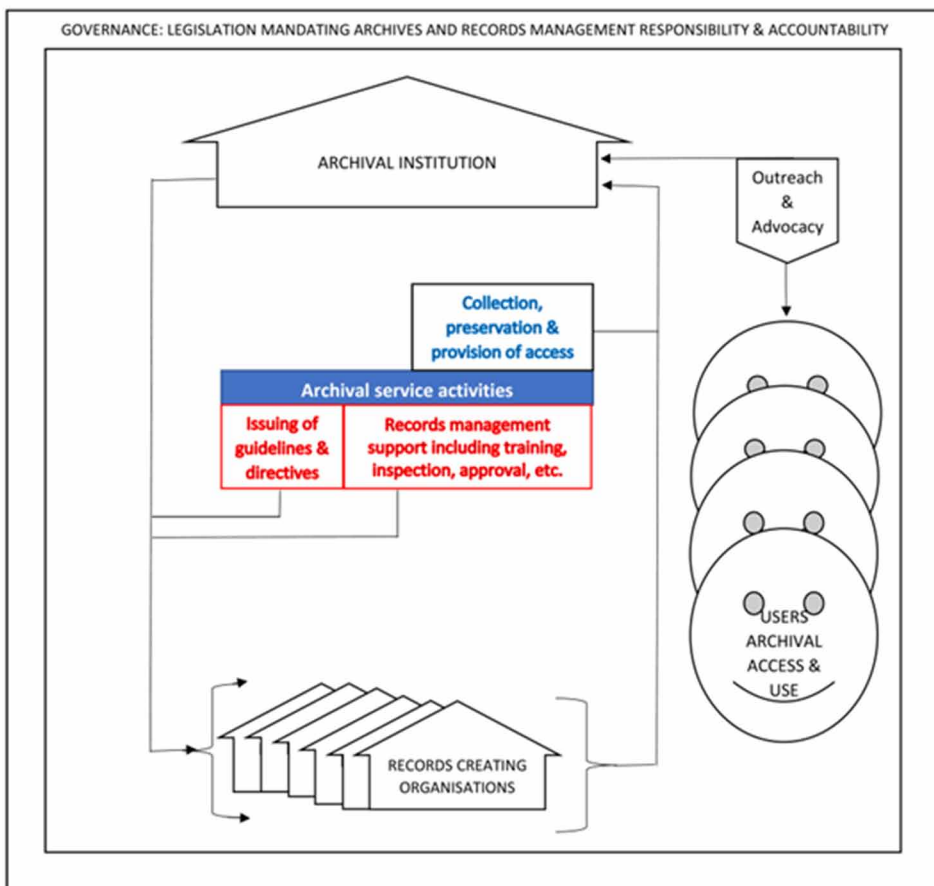
FURTHER RESEARCH DIRECTIONS

This study was about the fact that Archival Institutions should worry about records management modus operandi and how it is to impact on their future holdings. There is a need for a full study about how archival institutions may do to ensure that archival materials do not die or fade within the records creating institutions before being transferred to archives for permanent preservation. This will help avoid early death of the state memory.

CONCLUDING REMARKS

Archival institutions need to serve as shepherds for records throughout its life including the moment when it is still with the creating organisation. This will enable them to secure those with enduring value among the ephemeral records. Otherwise from the creating organisations, all records become useless at some stages regardless of whether some has enduring value or ephemeral value. That is the reason once they no longer need them, they just become not caring about all of them. This also happens even when they were made aware of the different values of such records. In other words, they sometimes regard archival institution as a sort of dumping site for old records like the street kids who eat in the dustbin, they do not eat everything there but instead select only few they need and leave the rest for the municipal waste management to collect. So, archival institutions must act like street kids, they must move to the dustbin and check what is valuable for them and arrange for transfer in a form of directives and guidelines in different creating organisations. This they do on behalf of the community, who will eventually visit their repository for the same information. Otherwise, if they sit within their institutions thinking that everything will move well as they think and believe, some records may die or be damaged at their younger age, and they will forever be missing in the archival collection. The bad part about archival records or records, in general, is that once damaged or lost they are no longer replaceable, unlike library books that may be purchased again and kept on the shelves for users. Record is like a human being once it dies will never be recovered. It will be a total goodbye to it.

ACKNOWLEDGMENT

REFERENCES

Botswana Government. (1978). National Archives and Records Services Act. Government Printer.

Brunskill, C. (2012). *The history of record keeping in the UK museum and gallery sector.* https://www.sciencedirect.com/topics/computer-science/archival-management

Cloonan, M. V. (2001). W(h)ither preservation. *The Library Quarterly*, *71*(2), 231–242. doi:10.1086/603262

Conture, C., & Lajeunese, M. (1994). Impact of Archival legislation on National Archives Policies: A Comparative Study Archives. *The Journal of the British Records Association*, *11*(91), 1–18.

Eden, P., & Feather, J. (1997). Preservation policies and strategies in British archives and record offices: A survey. *Journal of the Society of Archivists*, *18*(1), 59–70. doi:10.1080/00379819709511812

Forde, H. (2007). *Preserving archives*. Facet.

International Council on Archives. (2004). *Principles for archives and records legislation*. https://www.ica.org/sites/default/files/CLM_2004_archivalprinciple_paper_draft_EN.pdf

Kalusopa, T. (2011). *Developing an e-records readiness framework for labour organisations* [Unpublished doctoral dissertation]. University of South Africa, Pretoria.

Keakopa, S. M. (2013). Implementation of a records management strategy at the Botswana Unified Revenue Service. *Journal of the South African Society of Archivists*, *46*, 37–46.

Kemoni, H. N. (1996). Preservation and conservation of archive materials: The case of Kenya. *African Journal of Library Archives and Information Science*, *6*(1), 46–51.

Millar, L. (1997). *Principles of records and archives management*. International Council on Archives/IRMT.

Mnjama, N. (2010). Preservation and management of audio-visual archives in Botswana. *African Journal of Library Archives and Information Science*, *30*(2), 129–148.

Mosweu, T., & Simon, I. (2018). The implications of the National Archives and Records Services Act on archival practice in Botswana. *Journal of the South African Society of Archivists*, *51*, 70–96.

National Archives and Records Service of South Africa. (2016). *Records management.* http://www.nationalarchives.gov.za/node/580

National Archives of UK. (2016). *Archive Principles and Practice: an introduction to archives for non-archivists*. https://www.nationalarchives. gov.uk/documents/archives/archive-principles-and-practice-an-introduction-to-archives-for-non-archivists.pdf

Ngoepe, M., & Keakopa, S. (2011). An assessment of the state of national archival and records systems in the ESARBICA region - A South Africa-Botswana comparison. *Records Management Journal*, *21*(2), 145–160. doi:10.1108/09565691111152071

Ngoepe, M., & Saurombe, M. (2016). Provisions for managing and preserving records created in networked environments in the archival legislative frameworks of selected member states of the Southern African Development Community. *Archives and Manuscripts*, *44*(1), 24–41. doi:10.1080/015768 95.2015.1136225

Ngulube, P., & Tafor, V. F. (2006). The management of public records and archives in the member countries of ESARBICA. *Journal of the Society of Archivists*, *27*(1), 57–83. doi:10.1080/00039810600691288

Oweru, P. J., & Mnjama, N. (2014). Archival preservation practices at the records and archives management Department in Tanzania. *Mousaion*, *32*(3), 136–165. doi:10.25159/0027-2639/1680

Parer, D. (2000). *Archival Legislation for Commonwealth Countries. Association of Commonwealth Archivists and Records Managers*. Clifton Beach.

Ramokate, K. (2006). Preserving the African memory: Critical challenges for ESARBICA archival organizations. *ESARBICA Journal*, *25*, 84–93.

Schellenberg, T. R. (1971). Modern archives: principles and techniques (5th ed.). University of Chicago Press.

Sebina, P. M. (2007). *Information management in Africa to undergo a change?* World Library and Information Congress: 73rd IFLA General Conference and Council, Durban, South Africa. https://www.ifla.org/iv/ifla73/index.htm

Shepherd, E., & Yeo, G. (2003). *Managing records: a handbook of principles and practice*. Facet.

Society of American Archivists. (2021). *Records management*. https://www2.archivists.org/node/14803

South African government. (1996). *National Archives and Records Service of South Africa Act No. 46* (1996)

The US National Archives and Records Administration. (2016a). *Archives and Records Management Resources.* https://www.archives.gov/research/alic/reference/archives-resources/terminology.html

The US National Archives and Records Administration. (2016b). *Archives and records management resources.* Available at: https://www.archives.gov/research/alic/reference/archives-resources/questions-about-archives.html

United States General Accounting Office. (2002). *Information management: challenges in managing and preserving electronic records: report to congressional requesters*. https://www.gao.gov/new.items/d02586.pdf

KEY TERMS AND DEFINITIONS

Archival Holdings: Archival holdings refer to the collection of archival materials in different form and medium in archival custody.

Archival Institutions: Archival institutions refer to the institution or organization that is responsible or is taking responsibility for preservation and management of archival records or records with enduring value. In government

this is the kind of institutions that are charged with central responsibility to ensure that records across different records creating organisations, especially government institutions are properly managed throughout their life cycle.

Archival Value Records: Archival value records refer to records that has an enduring value or permanent value or secondary value. Such kind of records are important forever to the total citizen and ought to be kept forever for many future generations of different interests to such records.

Archives Preservation: Archives preservation refers to proper keeping of archival records in such a manner that such records are safe and protected to an extent that they are only accessible to authorised people and are free from being affected by disaster of any kind, whether natural or manmade.

Modus Operandi: Modus operandi refers to the way of operation, especially in business administration and in case of archives and records management is pertaining to the way of managing archives and records in their custody.

Records Management: Records management refers to management of recorded information in different formats and medium to facilitate access and security for such information, usually through central registry.

Chapter 7
Dual Tragedy of an Infodemic in a Pandemic:
Exploring the Ramifications of COVID–19 in Zimbabwe

ABSTRACT

Whereas the world was riddled with the advent of novel coronavirus-2019 (COVID-19) towards the end of 2019, in Africa in general and Zimbabwe in particular, citizens were confronted with a dual tragedy of infodemic in form of policy inconsistency as well as misinformation. In the case of Zimbabwe, since the arrival of COVID-19, the situation has been characterised by with reckless pronouncements by government officials at the highest level of policy making as well as deliberate misinformation and falsification of information pertaining to COVID-19. In those circumstances, when (mis)information is peddled from the top, it becomes an infodemic far more compelling than the pandemic itself. This chapter unpacks the dual tragedy of infodemic in a pandemic through exploring the ramifications COVID-19 has had in Zimbabwe. In doing so, the chapter traces the arrival of COVID-19 in Zimbabwe, how it resulted in trivialization, as well as information misappropriation. The chapter conclusively argues that the infodemic is more damaging than grappling with a pandemic.

INTRODUCTION

The criticality of information in the advent of a pandemic cannot be overemphasized. People tend to rely more on information churned by credible sources, ranging from government, reliable media houses, online platforms, opinion leaders, researchg8ers and think tanks, amongst several other related information channels. Whilst that is the case, the information communication technology revolution witnessed at the beginning of the 21st century and the advanced digital platforms which Africa has also witnessed in the last decade, an abundance of information and its over saturation has resulted in what has often been lost been termed Infodemic. The McMillan dictionary (2003) defines *Infodemic* as an excessive amount of information about a problem, which is sometimes incorrect and harms finding a solution; Infodemic has become more pronounced and more visible in the current global dispensation of Covid-19. Covid 19, a rare and uncontrollable disease, came unannounced and left humankind in a severe social and economic quagmire. This chapter is a modest attempt to unpack the dual tragedy of dealing with an infodemic in a pandemic. The chapter argues that contrary to the long-held belief of freedom of information, freedom of expression and freedom of speech as cardinal virtues in a liberal democracy, without information sieves and control mechanisms put in place to deal with Infodemic, the net costs have over painful consequences more detrimental than a pandemic itself.

BACKGROUND INFORMATION

On February 11 2020, the World Health Organisation (WHO) announced that there was a disease caused by nCov, which the world health regulatory body then named Covid 19 –an acronym for "coronavirus disease 2019" (Wu and McGoogan, 2019). The virus was first detected in Wuhan, China, in late December 2019 (Rusero, 2021). The absence of previous experience in handling the 2019-nCov was why it was practically difficult to contain the virus (Rusero, 2021). In Zimbabwe, just like many countries in the region, Africa and the entire world, the situation was exacerbated by the amount of misinformation, false information, fake news and wholesomely Infodemic, which triggered health anxiety and panic behaviour. In Zimbabwe, the situation was even worsened by the fact that Zimbabwe remains one of the

top allies of China in Africa, with an unrestricted influx of Chinese citizens and investors who always have preferential treatment by 8the government courtesy of Zimbabwe's Look East Policy.

Between February 19 2020, and March 13 2020, of the eight suspected cases in Zimbabwe, half of them had been of people who had a travel history to China (Makurumidze, 2020; WHO Report, 2020; UNICEF, 2020). By March 29 2020, there were 634 835 reported cases in African countries (ZCTU, 2020). Following the conduct of tests by the Zimbabwean government on March 27 2020, and out of the 188 tests, seven cases were confirmed positive (ZCTU, 2020; UNESCO, 2020; World Vision, 2020; Zimbabwe Situation July Report, 2020). The government's response was the imposition of a 21-day lockdown with a stringent ban on non-essential movement, monitored by state security. All schools, universities and tertiary institutions hastily shut down in a bid to safeg8uard the welfare of the standards and staff (Education Cluster Report, 2020).

Plagues and epidemics have ravaged humanity throughout its existence, often changing the course of lifestyle, and Covid 19 is not an exception. These epidemics and pandemics date back from prehistoric to modern (Jarus, 2020). Pandemics such as the Black Death of 1346-1353 BC were a game-changer of that time as they managed to change Europe's serfdom system and, in a way, contributed to technological innovation. Other pandemics include the flu pandemic, the Russian plague, the AIDS pandemic, Swine Flu, and the West African Ebola epidemic (Owen, 2020). The AIDS pandemic has far-reaching consequences as it has claimed over thirty-five million people to date. The good part is that it is not as contagious as other epidemics and pandemics, and it is mainly spread to voluntary partners. In December 2019, a novel coronavirus emerged in Wuhan, China and on March 11 2020, the World Health Organisation declared the novel disease a global pandemic. (UNESCO, 2020; World Bank Report, 2020; Raoofi et al., 2020).

CONTEXTUALISING THE PROBLEM

A lot has been postulated about the virtues of digital information proliferation in Africa in general and Zimbabwe in particular. Indeed the vices of authoritarianism and dictatorial tendencies in Africa and Zimbabwe, coupled with the stifling of information, propaganda and political grandstanding, the proliferation of digital information platforms have broken the government's monopoly of information; opened up avenues for alternative sources –of

information as opposed to propaganda and falsification of information to score cheap mileage. Under ZANU PF rulership since the attainment of independence in 1980, Zimbabwe has witnessed how the government and ruling elite are not prepared to liberate information transactions, free flow and exchange. However, social media and several other digital platforms have since demystified how the government can maintain a stronghold. Paradoxically in Africa and Zimbabwe, information has been reduced into a site of struggle and in the process, what has been witnessed are manifestations of misinformation, disinformation and Infodemic. This has not yet been tackled by way of research. Covid 19 has also affected scholarship in Zimbabwe to the extent that the ramifications of the pandemic in the context of the Infodemic have not yet adequately been tackled by way of research. Although few types of research have thus far been conducted on Covid 19 in Zimbabwe, for example, Rusero et al. (2021), Rusero (2021a) and Rusero (2021b), all them did not devote attention to the implications of Infodemic in the context of Covid 19. This chapter addresses this glaring gap and, in the process, proffers practical recommendations that may be put in place.

OBJECTIVES

The Objectives of the Study aim to:

- investigate the tragedies of Infodemic in a pandemic
- discuss sources and or avenues of Infodemic during the Covid 19 pandemic in Zimbabwe
- explore theoretical lenses that can inform ways of dealing with Infodemic
- recommend practical action to curb the Infodemic in Zimbabwe

STUDY TECHNIQUES

Research techniques are the actions and approaches of inquiry – items such as design, the sampling of units of study, data collection instruments, and procedures to be used to gather data (Creswell, 2014). This study is predominantly qualitative, given the life experience nature of the insights sought in assessing the tragedy of Infodemic in a pandemic. Data collection heavily relied on an intensive preview and analysis of literature related to

the study. It was thus heavily premised on the authors' reflections, bearing in mind that although this may pause limitations, it is the first port of call in reality searching and reality seeking (Rusero et al., 2021). In content analysis, the text might be verbal, in point, or an electronic format, interviews, focus groups, observations or print media (Kondracki and Wellman, 2002). These techniques gave valuable insights to arrive at an informed study analysis.

RAVAGES OF COVID 19 IN ZIMBABWE

In Zimbabwe, the calamities of the Covid- 19 pandemic were felt in all facets of life, ranging from the social to the economic, the political, and even the cultural and technological constraints. In the midst of what could have been a perfect opportunity for the strategic deployment of helpful information to allay fears as well as educate and update citizens, the momentum was buried or overtaken by Infodemic, where the government was also complicit in being a competitor and not a gatekeeper to curb the Infodemic. However, it is crucial to invest in developing viable vibrant information services (Chisita et al., 2016). Information filtering and sifting of misinformation and disinformation and the deterrence of fake news is the panacea to the socio-economic and political problems bevelling Zimbabwe, but this was unfortunately not the case in Zimbabwe during the advent of the Covid- 19 pandemic and Infodemic.

The manifestations of the Covid- 19 pandemic in Zimbabwe occurred against complex, non-performing hyperinflation, persistent droughts, and a volatile political environment. The government has often been accused of stifling human rights and narrowing the political space under a thinly disguised cover of enforcing compliance with lockdown regulations. The Zimbabwe Peace Project (2021) released a Covid- 19 pandemic Accountability Tracker. It specifically singled out sections of the Constitution's Declaration of Rights which have been casualties of lockdown enforcement measures by the state, notably the Right to Liberty (Section 49), Right to Dignity (Section 51), Freedom from Torture and Cruel Inhuman Treatment (Section 53), Equality and none-discrimination (Section 56), Right to Privacy (Section 57), Freedom of Assembly (Section 58), Freedom of Information (Section 62). When Zimbabwe's government first imposed a lockdown to rein in the spread of Covid 19 in March 2021, police used the lockdown as grounds for forcibly shutting down the meetings of the opposition groups while letting events of the ruling ZANU PF party go ahead with no interference (Mavhunga, 2021). On May 13 2020, MDC Alliance Member of Parliament

128

for Harare West Joanna Mamombe, Cecilia Chimbiri and Netsai Marova were allegedly abducted by members of the state security for taking part in a flash demonstration organised by MDC Alliance Youths in Harare's suburb of Warren Park D (Mawere, 2020). The MDC trio were only located after two days dumped on the outskirts of Bindura, some 120 kilometres away from the capital of Harare (Mawere, 2020). The above case points to a grim picture of a government with other ulterior motives outside the genuine enforcement of WHO regulations and ensuring g citizens' compliance.

Apart from the political scene, education also emerged as one of the most significant casualties of Covid 19 in Zimbabwe. Most learners in Zimbabwe have limited or no access to the internet. This implies that they could not sustain unrealistic calls by the government to migrate to online learning (World Vision Report, 2020). The situation was more gruesome in rural schools with no electricity, internet connectivity, and poor mobile phone penetration rate. There was minimum and close to no learning taking place during the lockdown restrictions.

Moreover, most of the public schools in Zimbabwe have, for the umpteenth time, almost exclusively relied on a paradigm of knowledge transfer that is primarily mediated by diachronic forms such as charts, bound textbooks and chalkboards (Mandeya et al., 2013). As such, the advent of the Covid- 19 pandemic has called for, if not outrightly demanded, the need to explore virtual teaching and learning opportunities as several educational institutions around the world remain closed as a response to curtail the pandemic. The pandemic has significantly exposed the weakness of brick-and-motor learning, as over 91% of the world's students are grounded at home (UNCESCO, 2020) owing to the ban on most face-to-face activities, including teaching and learning. Curriculum planners are clueless because there is no point of reference, and it is even worse to predict the future without clear historical precedence. Conversely, the consequences are that learning inequalities will widen, marginalisation will increase, and the most disadvantaged students will not be able to pursue higher education.

The chapter would be incomplete without exposing the ravages of Covid 19 on the health sector and the health infrastructure in Zimbabwe. Zimbabwe's health sector has been in the doldrums for a long time, even prior to Covid 19. The public health system has collapsed due to a long period of neglect that goes to the contracting of the economy as way back as during the advent of the adoption of the World Bank and IMF-inspired Structural Adjustment Programme of the 1990s (Scoones, 1990; Rusero and Mvundura, 2020). With acute shortages of facilities, drugs, and medical health personnel, it

was always inevitable that Zimbabwe would be exposed to the core in the event of an outbreak a pandemic. The situation has further been complicated by the massive shutdowns and closures of borders. Some local people in Zimbabwe have of late been going to neighbouring states searching for alternative health care access. With insufficient supplies of medicines, face masks and chemicals and a lack of enough hospitals, it was pretty apparent that the health sector was a ticking time bomb.

INFODEMIC IN A PANDEMIC

In Zimbabwe, like in several African states, truthful information emerged as the biggest casualty of the pandemic. In formation, access to credit remains a vital cog in raising awareness and keeping abreast with emerging developments in any facet of life (Chisita and Rusero, 2019). However, Zimbabwe health communication was found wanting in Zimbabwe as a vast information deficit created a vacuum that was negatively ex0plainewd through the dissemination of disinformation, misinformation and fake news. As such, the discourses of coronavirus have remained fudged, less informative and exclusive in approach. The pandemic outbreak requires robust, timeous and accurate information that improves the understanding of risks associated with pandemics and informs decision-making (Coomps, 2009).

This is because, by their very nature, pandemics are progressively vital forces that have the potential to do fantastic physical, psychological and social harm and result in complex nonlinear and unanticipated interactions between systems (Seeger and Reynolds, 2008). Thus, in an outbreak of a disease or a pandemic, there is a need for the public's fear to be allayed through the dissemination of knowledge (Khan, 2021). Therefore, there is a dire need to invest in health crisis communication, which includes information about jeopardies and ways of ameliorating them. Risks information incorporates warnings, risk assessments, notifications and medical treatments (Seeger and Reynolds, 2008). As a result, accurate, credible, timely and reassuring information has become an essential part of crisis management, especially during an outbreak of a pandemic. This information is essential for improving disease prevention, minimising spread and impact, and advancing treatment (Houston, Chao and Ragan, 2008).

Based on the above reflections, it is apparent that the most convenient information dissemination platform denotes the media. According to Rowe (1993), the mass media are virtually inexorable in today's world because

130

they reach millions of people concurrently. The public is subjected to and saturated with media information and entertainment to such a degree that the media are widely acknowledged as playing a significant role in influencing amateur understanding of many issues, including those related to health and disease (Khan, 2021). Many people in the public health, medical and related fields regularly use the mass media to convey health messages, knowledge and, in particular, health promotion strategies. They rely on the media to support or reinforce their health messages for successful intervention. Consequently, the growing trend of the use of mass media for this purpose reaffirms the reconfiguration of the mass media as a significant source of health communication. It thus becomes a paradox that such a viable tool in Zimbabwe and the generality of the continent has effectively been converted into an unfortunate retrogressive platform of Infodemic.

For this discussion, this chapter borrows Wito's broader definition of an infodemic, defining it as

"an overabundance of information, some accurate and some not – that occurs during an epidemic. It spreads between humans in a similar manner to an epidemic, via digital and physical information systems. It makes it hard for people to find trustworthy sources and reliable guidance when they need it. During epidemics more than in normal time, people need accurate information to adopt their behaviour to protect themselves and their families and communities against infection" (Wito, 2020: 9).

The fundamentally interconnected way thus propagates Infodemic in information's dissemination and consumption through social media platforms and other channels, and, in the context of the Covid 19 pandemic, it is exacerbated by the global scale of the emergency. Infodemic can impact citizens in every country, and addressing them is a new and centrally important challenge in responding to disease outbreaks (WHO, 2020).

Zimbabwe has not been spared from Infodemic following the outbreak of Covid 19. What has been more appalling has been that the policymakers at the highest level of government have been complicit, coupled with media stigmatization of people infected with Covid 19 and fake news about the epidemic. At the highest level, Bizarre came from Zimbabwe's Defence Minister and ZANU PF Chairperson, who in March 2020 made sensational claims that Covid 19 was God's way of publishing the United States and other Western countries for imposing sanctions on Zimbabwe. At the height of its controversial land reform programme, Zimbabwe was widely condemned

by the United States of America, the United Kingdom, the European Union and several allies of these nations, including the imposition of sanctions (Rusero, 2015). On December 4 2001, US President George Bush signed into law S494 of the Zimbabwe Democracy and Recovery Act (ZIDERA) which placed Zimbabwe's government and ZANU PF officials, Mugabe and several; cabinet ministers, under a sanctions embargo (Rusero, 2016). ZIDERA also affirmed the US' desire to use its influence in IFIs such as the IMF and World Bank to bar Zimbabwe from accessing any lines of credit. The US sanctions complemented the European Union sanctions firstly imposed in 2002 through the Common Position 2002/145/CFSP about the EU's claims of the escalation of violence and intimidation of political opponents and the harassment of independent press (Rusero and Mvundura, 2020).

Addressing ZANU PF supporters at a rally held in Chinhoyi – some 120 kilometers northwest of the capital of Harare, Muchinguri declared that:

This coronavirus that has come is sanctions against the countries that have imposed sanctions on us. God is punishing them now, and they should stay indoors while their economy is screaming like what they did to ours by imposing sanctions on us (Muchinguri, cited in Mutsaka, 2020).

The irony of Muchinguri's speech which could be nuanced to understand the government's attitude to a global pandemic, is very telling of the extent to which policymakers have been complicit in churning the Infodemic instead of averting it a pandemic. Muchinguri thought of using the myths and political grandstanding attacking Britain and America for the targeted sanction son Zimbabwe. The "sanctions must go" mantra has been ZANU PF's slogan used on various platforms domestically and at the international level. The same mantra remains one of the critical sources of ZANU PF's megaphone diplomacy. Such dangerous remarks from a Defence Minister of Zimbabwe cannot be taken at face value. Given the idiosyncratic positions that political followers are prepared to take, it is likely that gullible supporters are likely to believe in this heresy and farfetched Infodemic spilt for the specific purposes of scoring cheap political mileage.

What is surprising more and confirming that such vitriol is likely to have an audience that takes it as gospel truth is that Muchinguri's remarks received thunderous applause from the audience. Instead of taking the opportunity to educate people on precautionary measures to take to help curb the spread of the Covid 19 scourge, Muchinguri opted for the farfetched dangerous path of Infodemic which has far-reaching consequences. More than just being

about deliberate falsification of information about a pandemic, Muchinguri's spitting of racial comments amid a global epidemic calamity also indicated a bereft of ideas on the part of President Emmerson Mnangagwa's government in Zimbabwe. This is so because such misinformation and conspiracy theories advanced by a respected figure, top government official and national chairperson of the ruling party can potentially generate complacency and mistrust, thereby derailing health initiatives toward curbing the inevitable spread of the pandemic in Zimbabwe., thus negatively impacting on public health policy and the country's response to Covid 19 (Shumba et al., 2020). The gravity of the matter explains why President Mnangagwa personally intervened by way of issuing a statement, noting that:

Pandemics of this kind have a scientific explanation and know no boundary, and like any other natural phenomenon, cannot be blamed on anyone…We have all witnessed the tragic scenes in China, Iran, Italy and other countries worldwide. We stand with our friends in the international community. My government empathizes with the affected people around the globe and stands ready to assist, in whatever ways within our capacity" (Mnangagwa, 2020).

This was not the only time Muchinguri made such reckless remarks. In January 2021, Muchinguri made further sensational claims when she accused China of creating the novel coronavirus that has killed millions across the globe. Following the death of Manicaland Provincial Minister and Muchinguri's top political ally Elen Gwaradzimba, Muchinguri retorted:

The disease is at a fresh peak now. Cases are rising again. They (the Chinese) are the ones who started their experiment, and the thing got out of hand, and now their experiments are costing us. They cannot control this now. They cost us. Those whom we call our all-weather friends look at what they have done to us now (Muchinguri, cited in Chibamu, 2020).

By reducing a whole pandemic into a conspiracy of Chinese virus manufactured in a laboratory, Muchinguri's gaffe caused yet another diplomatic embarrassment for the ever-flourishing Zimbabwe-Sino relations, causing the Ministry of Foreign Affairs to dissociate Zimbabwe from Muchinguri's remarks as the ministry claimed did not reflect the Zimbabwean government's position and perception. In a statement, the Ministry of Foreign Affairs noted:

Reference is made to a purported telephone conversation between the Minister of Defence and War Veterans Affairs, Honorable O.P.Z. Muchinguri-Kashiri and a journalist, Simba Chikanza, are circulating on social media platforms. We wish to make it clear that the sentiments expressed do not reflect the position of the Government of Zimbabwe. Zimbabwe and China

THEORETICAL LENSES

The role of social theory is fundamental to all forms of socio-political inquiry because it specifies its basic assumptions. Gabriel (2008) defines a theoretical framework as the body of knowledge that can hold or support a theory of a research study. The theoretical framework unveils and outlines the theory or theories explaining why the research problem under study exists. Explanations of emerging studies of Infodemic require a multi-level and multivariable explanatory framework, a conceptual framework that recognises the shortcomings of single-cause explanations of African states' foreign policy behaviours and processes. In undertaking the study under discussion, this chapter uses Social Responsibility Theory and Development Theory as two different theoretical lenses in unpacking the predicament of Infodemic in a pandemic.

The Social Responsibility Theory

Although Social Responsibility Theory has long been explicitly confined to the media industry and media operation, this may be extended broadly to campus the whole information industry even outside the purview of media. This relates to the role given to the media information in modern industrialized and capitalist societies ruled by democratically elected governments. Social Responsibility Theory emerged as a result of conflict between professionalism and self-regulation of the press and pressure for greater media regulation. This theory states that the media can be used by anyone who has an idea to express, but they are forbidden to invade private rights or disrupt social structures. It emphasises the freedom of the press and places responsibility on the media practitioners to abide by specific social standards. It opposes media regulation but believes that the press is automatically controlled by community opinion, consumer protest and professional ethics.

Social responsibility calls on the media to be responsible for fostering productive and creative "Great communities". The media should prioritise cultural pluralism – by becoming the people's voice – not just elite groups that had dominated national, regional or local culture in the past. It also points out that the media must adhere to the highest ethical standards in carrying out their obligations. Social Responsibility Theory's basic principles, as summarized by Dennis McQuail (2007), include:

- serving the political system by making information, discussion and consideration of public affairs generally accessible. In other words, there should be universal access to information reception;
- The media should be the platform for diverse views. The media should be pluralist and reflect the diversity of their society giving access to various viewpoints and the right to reply;
- informing the public to enable it to take self-determined action;
- protecting the rights of the individual by acting as the watchdog over the government;
- serving the economic system; for instance, by bringing together buyers and sellers through the medium of advertising;
- providing "good" entertainment, whatever "good" may mean to the culture at any point in time;
- There should be maximum media independence, however consistent with their obligations to society. The media should be self-regulating within the framework of law and established institutions. In this case, the media should preserve financial autonomy in order not to become dependent on special interests and influences;
- The media to be kept free from government and other vested interests;
- Direct funding of the media by the public;
- Media ownership and control are viewed as public stewardship, not a private enterprise. Society expects high-performance standards and interventions can be justified to secure the public good;
- The media, therefore, even though privately owned, is answerable to the consumer, shareholder, and society. The journalist is accountable to society, employers and the market. Media obligations to society include informativeness, accuracy, balance and objectivity;
- The media to have a concern for national identity and community;
- Encouraged competition of programmes. This is public service broadcasting as opposed to the commercial model.

Media information should give a 'representative picture of constituent groups in society and present and clarify society's goals and values. The model rejects the sensationalism of information churned through the press and the mixing of news with editorial opinion. Social responsibility should be resembled by self-control, not Government intervention. Furthermore, McQuail (2010: 171) notes that the Social Responsibility theory holds that the government must not merely allow freedom. It must actively promote it when necessary. Therefore, the government should act to protect its citizens.' The government should curb Infodemic even through other mechanisms such as legislation of laws that makes deliberate production of Infodemic an offence. The government's actions include legislation to forbid 'flagrant abuses', and it may also enter the field of communication to supplement existing media. Thus, enacting laws that protect citizens' rights to privacy or dignity under this theory is justifiable. Boyd Barret (1995) asserts that if you let loose the media, you would have let loose the dogs of war.

However, the authors are pretty alert to the feasibility of censorship of information and, in some circumstances, propaganda, all done to curtail the Infodemic. If it is strictly monitored, information as a public good is likely to the victim to authoritarianism and dictatorial tendencies. Moreover, the issues of morality, decency, social order and security have semantic ambiguity and are hard to institute correctly because the need to focus on relevant information may limit the media on what they can or cannot cover.

Development Theory of Information

The Development theory postulates that the most critical tasks for institutions such as the media are economic, political and social development. Developing countries are increasingly aware of their common destiny as far as their interests and position in the international political order are concerned and realise the need to unite to overcome their dependence on the West and Western domination. The public media in Zimbabwe, to a greater extent, has contributed positively to the national development as it has acted as a link between the government and the people providing the masses with information about what is happening in other parts of the world, the new technologies that are being developed, disasters and such. Also, through the mass media, the government has managed to inform, explain and convince the public about their programmes and policies. On ZBC television, the News Hour, an informative programme, is broadcasted to provide the audiences

136

with a platform for exchanging ideas, mainly informing the masses on various policies adopted by the government like the Vaccinations and Immunization programmes, among many others.

The most important principle of the development theory is that economic development ideals and the accompanying political and national development process should be emphasised. As a result, certain liberties of information dissemination should be made subordinate to the achievement of these ideals. According to Roelofse (1996: 56-58), common objectives as stated by the government are given priority over individual freedom, and the state should be able to restrict the media if economic interests and the development needs of the society are at stake. To protect development objectives, the state has the right to intervene by restricting and censoring the media, especially when people deliberately make it a habit to produce Infodemic. State subsidies and direct control are therefore justified. According to McQuail (1987: 121), in the interests of development, the government has the right to intervene in the media, restrict media operations, censor the media and take direct control of it.

The Development theory was a product of the unique circumstances in Third World countries, which included the lack of communication infrastructure and professional skills, economic means and production and cultural resources, and the dependence on the West regarding technology, skills, and cultural products. To redress the imbalances and promote the ideals of the theory, the developing countries, Zimbabwe included, formed the international Non Aligned Movement and ultimately formulated proposals for a New World Information Order (NWICO) to counter neo-colonialism and media imperialism and to achieve the media independence of members of the movement. The Development model dictates that media should give preference to information about national, cultural and language issues. The Development model advocates for using national media to promote particular forms of cultural identity. According to Chuma (2003:56), development journalism aims to achieve national development, nation-building, and political and cultural unity.

BURSTING THE INFODEMIC MYTHS
- CASE STUDY OF ZIMFACT

An organisation devoting its core business to fact-checking called ZimFact in Zimbabwe has taken a lead role in bursting certain everyday myths and

infodemic associated with Covid-19. These myths have often caused anxiety, discomfort, misinformation and conspiracy theories. Some sections of the population have become sceptical in embracing the vaccination programme at a time the nation was battling to curb the spread of the virus. Provided is a myth bursting tool box produced by ZimFact, which has remained pivotal in allaying fears of Covid-19 manifesting through infodemic.

Debunked: These rumours that you've heard about COVID-19 vaccines are not true

The manufacture and distribution of COVID-19 vaccines have inspired many conspiracy theories against vaccines around the world.

Vaccines are not new. In fact, the WHO estimates that at least 10 million deaths were prevented between 2010 and 2015 thanks to vaccinations delivered around the world.

In this report, ZimFact busts some of the most common myths and misinformation around vaccines that have been popular on social media. Our report is compiled using information from credible sources, such as the World Health Organisation (WHO), Zimbabwe's Ministry of Health and Child Care, the Centres for Disease Control (CDC) in the USA, and the Africa CDC.

Myth: The COVID-19 vaccine is experimental, it was developed too quickly. We are being used for experiments

Fact: The global emergency resulted in pharmaceutical companies and governments investing significantly into developing vaccines. However, this doesn't mean that safety steps were skipped. Vaccines were still put through tests. They are tested on tens of thousands of people before they can be used widely.

According to the CDC, a manufacturer is authorised only after following at least half of the study participants for at least two months after completing the vaccination series. The vaccine must be proven safe and effective in that population.

When there is a serious public health emergency, such as coronavirus, the WHO and health authorities worldwide give what is called Emergency Use Authorisation (EUA). Under the EUA, a medicine can be used to treat people during an emergency, if it has been deemed to be safe.

This is not new. It has been successfully done during previous outbreaks, such as Ebola.

In addition, scientists were not starting from scratch. Although SARS-CoV-2 – the new coronavirus – was new, scientists have already been studying other coronaviruses for many years.

Technology has also advanced, allowing for quicker development.

Myth: The COVID-19 vaccine includes a microchip to monitor the masses

Fact: There is no microchip in the vaccine.

Conspiracy theories around the microchip largely focus on Bill Gates, the billionaire philanthropist who is a target of the anti-vaccination lobby.

Gates' comments, during the COVID-19 pandemic's early days, that people and businesses might need to have digital certificates "to show who has recovered or been tested recently or, when we have a vaccine, who has received it," have been manipulated to feed the false narrative.

READ: FACT CHECK – Makandiwa, Bill Gates, vaccines and microchips

Gates' remarks have been twisted and packaged into several social media posts and videos with a common theme – "Bill Gates wants to use a mass vaccination campaign against COVID-19 to implant microchips in people that would be used to track people with a digital ID."

This is simply not true.

Firstly, no microchip can fit in a vaccine needle. Secondly, if anyone wanted to track people, they wouldn't need to inject a microchip into people. They can already do that using your smartphone.

Myth: COVID-19 vaccines will alter my DNA

Fact: Among the first COVID-19 vaccines to reach the market are messenger RNA (mRNA) vaccines. According to the CDC, mRNA vaccines work by instructing cells in the body how to make a protein that triggers an immune response. Injecting mRNA into your body will not interact or do anything to the DNA of your cells. Human cells break down and get rid of the mRNA soon after they have finished using the instructions.

In fact, the mRNA will not even reach the cell's nucleus, which is where our DNA is housed.

Myth: Vaccines are fake because you still get infected after vaccination

Fact: Vaccines are effective in reducing your chances of getting seriously ill or dying from being infected by COVID-19. If you are vaccinated, you are less likely to die or to be admitted to hospital than someone who is not vaccinated.

Myth: People who have had COVID-19 do not need the vaccine

Fact: Even if you have tested positive for SARS-CoV-2 in the past, you should be vaccinated.

According to the CDC: "Due to the severe health risks associated with COVID-19 and the fact that reinfection with COVID-19 is possible, [a] vaccine should be offered to you regardless of whether you already had [a SARS-CoV-2] infection."

Myth: High COVID-19 recovery rate makes vaccination unnecessary

Fact: Most people who get COVID-19 do recover, but many develop severe symptoms and die, so vaccination protects those who might suffer the coronavirus' fatal impact.

More than 1,300 people have died in Zimbabwe, and over 2,3 million globally. Experts believe many who have recovered from the disease will suffer long-term health problems.

So, even if contracting COVID-19 does not make you sick, getting vaccinated will protect those around you who might suffer severe complications or even death.

Widespread vaccination protects populations, including those who are most at risk and those who can't be vaccinated. It will be important for ending the pandemic.

Myth: COVID-19 vaccines cause infertility

Fact: COVID-19 vaccines do not cause infertility. Health experts warn that COVID-19 can in fact have serious implications on pregnant women, who typically experience changes to their immune systems that can make them more vulnerable to respiratory viruses.

According to a September 2020 report by the CDC, pregnant women with COVID-19 were found to be more likely to be hospitalized and require ICU admission than non-pregnant women.

Myth: These vaccines cause impotence

Fact: No true. You can still have children after getting the COVID-19 vaccine. Scientists say there is no evidence that vaccines cause infertility or impotence. Vaccines are designed to work with your immune system to help it to respond to viruses. They do not make you impotent. In fact, on the contrary, researchers have found that men who suffer severe COVID-19 illness may suffer from erectile dysfunction. This means that vaccines, in fact, protect you from impotence. They do not cause it.

Myth: These Chinese vaccines we have in Zimbabwe are not safe

Fact: The Sinopharm and Sinovac vaccines we use in Zimbabwe have been tested and approved for use by the WHO.

SAGE, which is the WHO's panel of experts, assessed the vaccines and has said: "SAGE has thoroughly assessed the data on quality, safety and efficacy of the vaccine and has recommended its use for people aged 18 and above."

The vaccines have not just been tested in the labs. They have been tested in the real world. They have been used on large populations in other countries, which gives us an idea of their efficacy.

Efficacy against hospitalisation for Sinovac in Chile was 85%, and it was 100% in Brazil, where the Gamma variant was first found. It was also 100% in

140

Turkey. This means that the vaccine was able to prevent people from getting seriously ill in those countries.

According to the WHO, a large Phase 3 trial in many countries showed that two doses, given at an interval of 21 days, gave an efficacy of 79% against symptomatic SARS-CoV-2 infection 14 or more days after the second dose. Vaccine efficacy against hospitalisation was 79%.

UNICEF is using Sinopharm to supply up to 120 million doses globally this year.

Myth: Getting the COVID-19 vaccine means no more masks and other coronavirus precautions.

Fact: People who get vaccinated against COVID-19 still need to maintain infection prevention precautions recommended by the World Health Organisation, health experts and authorities. This means one still has to keep wearing face masks in public, maintain physical distance and hand washing. Vaccines do not stop the coronavirus from entering your body; they only prevent you from developing moderate to severe COVID-19. The length of immunity of vaccinated people is not yet known. It's also not yet clear whether vaccination stops transmission of the coronavirus to other people.

Myth: The COVID-19 vaccine gives you COVID-19

Fact: COVID-19 vaccines cannot and will not give you COVID-19. The vaccines trigger your immune response by instructing your cells to reproduce a protein that is part of the SARS-CoV-2 coronavirus, helping your body recognize and fight the virus, if it comes along. The COVID-19 vaccine does not contain the SARS-Co-2 virus, so you cannot get COVID-19 from the vaccine. The protein that helps your immune system recognize and fight the virus does not cause any infection.

Myth: COVID-19 vaccines have deadly side effects

Fact: While the COVID-19 vaccine can have side effects, they are mostly short-term and not serious or dangerous. According to the vaccine developers, some people experience pain where they were injected; body aches; headaches or fever, lasting for a day or two. These are signs that the vaccine is working to stimulate the immune system, but if the symptoms persist beyond two days, you are advised to seek medical help.

Myth: Vaccines are designed to kill you in two years.

Fact: This rumour circulated after a false internet report claimed that French virologist Luc Montagnier said all vaccinated people will die within two years. ZimFact checked the claim. It was reported by LifeSiteNews, a Canadian website that publishes conspiracy theories and misinformation. Our check also discovered that Luc Montagnier never said that. It is fake news.

Myth: Now that we have vaccines, the pandemic will be over very soon

Fact: While the several vaccines that have been developed present a great opportunity to end the COVID-19 pandemic, experts say this might take years due to the complexity of the global vaccine rollout.

A little over 100 million COVID-19 vaccine doses had been administered worldwide by February 3, according to the Council for Foreign Relations. At the current rate, it will take years for enough of the global population to be vaccinated to a point where cases will start to fall.

Some experts believe 70% of the population will have to be vaccinated to achieve herd immunity – the point at which the disease is no longer likely to spread.

Vaccine manufacturers have limited capacity to produce in the face of huge global demand, so the vaccines are being distributed in phases.

While governments, vaccine developers, donors and other multilateral institutions work towards broad vaccine availability and distribution, the recommended measures to slow the spread of COVID-19 – wearing masks, physical distancing and washing hands – remain vital.

Source: ZimFact

FURTHER RESEARCH DIRECTIONS

The Chapter underscored the vitality of viable communication strategies as a key pillar in confronting the COVID-19 pandemic. The ability to maintain consistency of policy decisions at all levels and an unvarying application of these decisions across all levels is key to the realisation of success in dealing with the COVID-19 pandemic and infodemic. Further research should be undertaken to determine how policy coherence is useful in dealing with emergency cases and how scientific research should be useful in policy making when dealing with a pandemic .

CONCLUSION

The chapter has exposed the tragedies associated with infodemic in a pandemic, nuancing the discussion to the Zimbabwean scenario. Zimbabwe's unfortunate tragedy of infodemic in a pandemic has been a case largely of lack of a comprehensive information response tool kit to deal with Covid-19 in the first experience of the pandemic, such that government officials, lacking

142

clear policy direction and adequate skills in relaying critical information and updates of Covid 19 have ended up uttering reckless statements in a bid to score cheap political mileage, albert resulting in major contribution of infodemic. Grappling with infodemic in the advent of a pandemic is a hazardous situation to an already paralysed and ravaged country as was the case with Zimbabwe. The paper largely calls for the adoption of a viable communication strategy aimed at countering infodemic and in many instances, having the government of the Republic of Zimbabwe complement or collaborating with noble institutions such as the ZimFact project who have invested in priceless efforts to verify and check facts on any information fed to the nation at a time the country is battling with Covid -19. As the world has started to counter Covid 19 through various mechanisms of vaccination initiatives put in place, another round of infodemic is witnessed associated with several conspiracies aimed misinforming and intoxicating citizens with unhelpful and harmful information. There is therefore need for information packages, communication campaigns and citizens awareness programmes rolled out for citizens to be become active advocates to guard against infodemic.

REFERENCES

Chisita, C. T., & Rusero, A. M. (2019). *Exploring the relationship between Media, Libraries and Archives*. IGI Global. doi:10.4018/978-1-5225-5840-8

Chisita, C. T., Rusero, A. M., & Shoko, M. (2016). *Leveraging Memory Institutions to Preserve Indigenous Knowledge in the Knowledge Age*. Indigenous Notions of Ownership and Libraries, Archives and Museums. IFLA. doi:10.1515/9783110363234-021

Cresswell, J. A. (2014). *Qualitative inquiry and Research Design: Choosing Among Five Approaches*. Sage.

Houston, J. B., Chao, W., & Ragan, S. (2008). Newspaper coverage of the 2003 SARS outbreak. In J. H. Powers & X. Xiao (Eds.), *The social construction of SARS: Studies of a health communication crisis* (pp. 203–221). John Benjamins Publishing Company. doi:10.1075/dapsac.30.16hou

Jarus, O. (2020). *20 of the worst epidemics and pandemics in history*. Live Science.

Khan, K. B. (2021). An X-Ray Exposé of Health Communication on the Coronavirus pandemic in Zimbabwe's Print Media. In *COVID-19 Manifestation, Ramifications and Future Prospects for Zimbabwe– A Multi-disciplinary Perspective*. Yaounde: Langaa RPCID.

Kondracki, N., Wellman, N., & Amundson, D. R. (2002). Content Analysis: Review of Methods and Their Applications in Nutrition Education. *Journal of Nutrition Education and Behavior*, *34*(4), 224–230. doi:10.1016/S1499-4046(06)60097-3 PMID:12217266

Makurumidze, R. (2020). A case serious of early suspected cases reported and implications towards the response to the pandemic in Zimbabwe. *Journal of Microbiology, Immunology, and Infection*, *53*, 493–498. doi:10.1016/j.jmii.2020.04.002 PMID:32305269

Organisation, W. H. (2020). *Rational use of personal protective equipment (PPE) for the corona virus disease (Covid-19). World Health Organisation*.

Roofi, A., Takian, A., & Akbari, A. (2020). Covid-19 Pandemic and Comperive Health Policy learning in Iran. *Archives of Iranian Medicine*, *23*(4), 220–234. doi:10.34172/aim.2020.02 PMID:32271594

Rowe, D. (1993). Unequal Media. Inequality in Australia: Slicing the cake. William Heinemann.

Rusero, A. M. (2015). *The link between selected public media (The Herald and The Sunday Mail) and Zimbabwe's Foreign Policy (1980 - 2014)* [Unpublished MSc Thesis]. University of Zimbabwe.

Rusero, A. M. (2021a). *Covid 19 Ramifications on the Media in Zimbabwe: Unpacking the Sustainability and Operational Constraints*. Media Alliance of Zimbabwe.

Rusero, A. M. (2021b). *The State of Journalism Ethics in Zimbabwe*. Voluntary Media Council of Zimbabwe.

Rusero, A, M., Mawere, M., & Mashavira, N. (2021). *COVID-19 Manifestation, Ramifications and Future Prospects for Zimbabwe– A Multi-disciplinary Perspective.* Yaounde: Langaa RPCID.

Rusero, A. M., & Mvundura, E. (2020). Post-Mugabe era and the feasibility of regime change in Zimbabwe. *World Journal of Social Science Research, 7*(4).

Scoones, I. (1992). Coping with drought: Responses of herders and livestock in contrasting savanna environments in Southern Zimbabwe. *Human Ecology*, *20*(3), 293–314. doi:10.1007/BF00889899

Seeger, M., & Reynolds, B. (2008). Crisis Communication and Public Health. Integrated Approaches and New Imperatives. In Crisis Communication and the Public Health. Hampton Press.

UNESCO. (2020). *UNESCO International Research and Training centre for rural education*. Institute of Beijing Normal University.

United Nations Report. (2020). *Immediate socio-economic response to covid19 in Zimbabwe. Contextualising the UN Global Framework in Zimbabwe*. Government Printers.

Wito, R. (2020). *Misinformation and disinformation in relation to Covid 19*. World Health Organisation.

Wu, Z., & McGoogan, J. M. (2019). *Characteristics of and Important Lessons From the Coronavirus Disease 2019 (COVID-19) Outbreak in China: Summary of a Report of 72 314 Cases From the Chinese Centre for Disease Control and Prevention*. www.zbcnewsonline.co.zw

Zimbabwe. (2020a). *Education Cluster Report*. Harare: Government Printers.

Zimbabwe. (2020b). *Zimbabwe Situation Report*. Harare: Government Printers.

Zimbabwe Congress of Trade Unions. (2020). *ZCTU response to the impact of covid19 pandemic on workers and the Zimbabwean economy*. Harare: Government Printers.

Chapter 8
In the Heat of the COVID–19 Vaccine Apartheid:
Where Do Libraries Stand?

ABSTRACT

The COVID-19 pandemic and infodemic has dealt a serious blow to the progress and stability of humanity in its quest to realise a sustainable future. The position of libraries and other key stakeholders in the development equation needs a fundamental rethinking in order to build capacity to deal with the COVID-19 pandemic and its mutations. The challenges being encountered by developing countries in accessing COVID-19 vaccines serve as a wakeup call for all institutions to rethink, redefine, and restrategise how they can work in unison to provide solutions to save humanity from the effects of vaccine nationalism. The positions of all key stakeholders should resonate with the aspirations of the progressive world to ensure cooperation and camaraderie in ensuring egalitarian access to the COVID-19 vaccinations. This chapter seeks to unpack the phenomenon of the COVID-19 vaccine apartheid and raise awareness on the role of access to credible information in the wake of the pandemic.

INTRODUCTION

The COVID-19 pandemic has unprecedented damage and disruption to human lives throughout the world. The COVID-19 vaccination program presents the

world with an opportunity to cooperate and collaborate to ensure that everyone is vaccinated against the deadly virus. However, the goal to realize global access to COVID-19 vaccines has been affected by a myriad of factors including vaccine nationalism, vaccine hesitancy, information disorder, mistrust, lack of capital, restrictions on patents, and poor response tools among other factors. Access to COVID-19 vaccines and scientific information to raise awareness of the program for the benefit of policymakers and citizens has become crucial to ensure the success of the program. Libraries as information hubs cannot afford to standby instead they should be proactive and serve as a frontier in the fight against the pandemic (Chisita, 2020). These institutions are part of the solution to the pandemic because of their indispensable roles in providing access to credible information to ensure that citizens are well informed about the pandemic. Berlin, (2008) highlighted that the intensification of globalization and environmental degradation spurred global health, development scholars, and practitioners to call for a fundamental rethink on the world's growing microbial interdependence and the need to strategically plan on how to manage a probable global disease outbreak. Wipfli, & Luo, (March, 2021) viewed the 2003 SARS CoV-2 outbreak as a warning signal from mother nature that spurred international institutional action to improve global public goods for health. The authors cite the International Health Regulations (WHO, 2008), the WHO Global Vaccine Sharing Plan (GVAP), (2013), the Global Health Security Agenda and Coalition for Epidemic Preparedness Innovations (CEPI) (2016) are critical cooperative and collaborative efforts to tackle the global COVID-19 pandemic.

GVAP aimed to realize the vision of the Decade of Vaccines (DoV), of "a world in which all individuals and communities enjoy lives free of vaccine-preventable diseases" (MacDonald, Mohsni, Al-Mazrou, Andrus, Arora, Elden, Madrid, Martin, Mustafa, Rees, and Salisbury, (2020). Ingstad Sandberg, Andresen, Gopinathan, & Hustad Hembre, (2020) notes that the Ebola outbreak in West Africa in 2014 -2016 revealed lacunae in global structures for collaboration. This pandemic prompted organizations and individuals representing science, industry, states, and civil society to form CEPI as a pillar in the global response to fight the coronavirus (COVID-19) pandemic.

Carethers, (2021) argued that people have no protective immunity against the novel COVID-19 and that the bug has become a constant pandemic for the global population beginning in 2020 and into 2021.

Stephenson, (2021) noted that high-income nations already have contracted more than half of the total doses of COVID-19 vaccine doses while the low- and middle-income countries (LMICs) have access to only enough vaccine doses to cover approximately one-third of their populations, according to an analysis from the Kaiser Family Foundation (KFF) (Hamel, Kirzinger, Lopes, Kearney, Sparks, & Brodie, 2021). Stephenson (2021) and Kirzinger (2021) argued that widespread global access to COVID-19 vaccines should be viewed as a priority to avert cases and loss of lives and a solution to the realization of the global population immunity and controlling the pandemic.

The global COVID-19 vaccination campaign will be the largest in history. The delivery of COVID-19 vaccines presents challenges unprecedented in scale, speed and specificities, especially in low- and middle-income countries. The World Bank (2021) cited the lack of access to adequate vaccines and vaccine preparedness as obstacles to reaching global population immunity in LMICs.

STATEMENT OF THE PROBLEM

Access to the COVID-19 vaccines is useful in the fight to end the pandemic that has become a global threat to human lives and sustainable development. A world free from the COVID-19 pandemic will enable countries to realize sustainable development and enhance social cohesion, global peace, and cohesion. This envisioned world would enable citizens to enjoy their fundamental rights and freedoms to associate and express themselves and health care delivery will deliver quality services. While this assertion is not a blind romanticizing of a phantasmagorical world, it is a cause worth pursuing the benefit of humanity. However, as it stands the COVID-19 pandemic continues to wreak havoc at an unprecedented scale throughout the world and the only solution lies in providing egalitarian access to vaccines. The greatest challenge to the realization of a COVID-19 free world lies in global cooperation to ensure equitable access to COVID-19 vaccinations including scientifically backed information to citizens and policymakers to make informed decisions. This chapter seeks to explore how vaccine apartheid can be overcome and how key stakeholders including governments and libraries can contribute to the fight for a COVID-19-free world.

Research Questions

The study is guided by the following research questions:

What is the correlation between COVID-19 vaccination and sustainable development?
What is the effect of information disorder on COVID -19 vaccination?
What are the international cooperative initiatives to ensure egalitarian access to COVID-19 vaccines?
How can libraries contribute to the COVID-19 pandemic vaccination initiatives?

Research Methodology

The study employed a qualitative research methodology anchored on an interpretivist paradigm. Alharahsheh, & Pius, (2020) argued that the interpretivist paradigm and qualitative methods enable researchers to gain further depth through seeking experiences and perceptions of a particular social context. Mackieson, Shlonsky, & Connolly (2019) argued that while document analysis has often been used in combination with other research methods as a means of triangulation, to supplement and corroborate findings across different data sets to minimize the impact of the potential biases in a study, it can be used as a stand-alone qualitative research method. Bowen (2009) in concurrence with (Mackieson, Shlonsky, & Connolly, 2019) noted that there exists a corpus of qualitative research that rely mainly on the analysis of documents. Bowen (2009) described, Document analysis as a systematic procedure for reviewing documents to make sense of and synthesize data contained in print and electronic documents. The study aimed to provide a general overview of the COVID-19 vaccination and the role of libraries in the program, in selected countries. The researcher conducted document analysis to identify, retrieve and categorize relevant documents and this was followed by the content analysis of the documents to find answers to the research questions. Corbin & Strauss, (2008) contented that document analysis involves the examination and interpretation of data to elicit meaning, gain understanding, and develop empirical knowledge. The researcher chose document analysis because documents provide background and context, additional questions to be asked, supplementary data, a means of tracking change and development, and verification of findings (Bowen, 2009). The following table presents

Table 1. Sample of documents and data analyzed COVID-19 vaccination and Sustainable development

Documents selected	Data Analysed
International Health Regulations (WHO, 2008),	Prevention, protection against, control, and provision of public health response to the international spread of disease in ways that are commensurate with and restricted to public health risks, and which avoid unnecessary interference with international traffic and trade.
WHO Global Vaccine Sharing Plan (GVAP), (2013),	Framework to prevent millions of deaths by 2020 through more equitable access to existing vaccines for people in all communities.
Global Health Security Agenda and Coalition for Epidemic Preparedness Innovations (CEPI) (2016)	Building capacity for global health security to deal with epidemics and pandemics
World Bank (March, 2021) Assessing Country Readiness for COVID-19 Vaccines -First Insights from the Assessment Rollout	Assessment of country readiness for COVID-19 vaccines
Bowen (2009) & (Mackieson, Shlonsky, & Connolly, 2019)	Document and content analysis
Sheppard, B. (2021). threatens everyone. Green Left Weekly, (1296), 15.	Vaccine apartheid
United Nations Development Program (UNDP) (2021) What are the Sustainable Development Goals? https://www.undp.org/sustainable-development-goals Accessed 26 June 2021.	Sustainable development goals
van Zanten, J. A., & van Tulder, R. (2020). Beyond COVID-19: Applying "SDG logics" for resilient transformations. *Journal of International Business Policy*, *3*(4), 451-464.	SDG logic and COVID-19
Nhamo, G., Chikodzi, D., Kunene, H. P., & Mashula, N. (2021). COVID-19 vaccines and treatments nationalism: Challenges for low-income countries and the attainment of the SDGs. *Global public health*, *16*(3), 319-339.	Equitable access to vaccines
Pūras, D., Shaheed, A., & Madrigal-Borloz, V. (2020). No exceptions with COVID-19: "Everyone has the right to life-saving interventions"–UN experts say	Vaccine apartheid
Brehm-Heeger, P. (2021) Direction, Alignment, and Commitment—Partnering to Close the Divide. Computers in Libraries Vol, 45, Issue, 5, July, 2021. https://www.infotoday.com/cilmag/jun21/Brehm-Heeger--Direction-Alignment-and-Commitment--Partnering-to-Close-the-Divide.shtml Accessed 10 July, 2021.	Strategic partnerships for vaccination and the role of libraries
Abeysinghe, S. (2015). Vaccine narratives and public health: Investigating Criticisms of H1N1 pandemic vaccination. PLoS currents, 7	COVID-19 information disorder
Affelt, A (2021)Avoiding a Public Health Hunger Games: The Role for Libraries http://newsbreaks.infotoday.com/NewsBreaks/Avoiding-a-Public-Health-Hunger-Games-The-Role-for-Libraries-146893.asp Accessed, 11 July, 2021.	Role of libraries in the wake of COVID -19 vaccination
Emanuel, E.J., Persad, G., Kern, A., Buchanan, A., Fabre, C., Halliday, D., Heath, J., Herzog, L., Leland, R.J., Lemango, E.T. and Luna, F., 2020. An ethical framework for global vaccine allocation. *Science*, *369*(6509), pp.1309-1312.	Fair Priority Model for COVID-19 vaccination
WHO (February, 2021) Country readiness for COVID-19 vaccineshttps://www.who.int/news-room/feature-stories/detail/country-readiness-for-covid-19-vaccines Accessed 21 June, 2021	COVID-19 Vaccination phases

samples of articles and the data analyzed by the researcher. The list is not exhaustive but it provides a glimpse into the documents analyzed.

Sheppard, (2021) contends that the world is divided between the imperialist powers, often referred to in the capitalist press as "advanced countries", and the large majority of countries that are oppressed and exploited by the imperialists, often called "low income" or "developing countries". The author cited the example of Israel and the Palestinians in the West Bank and Gaza as an epitome of the global Covid -19 vaccine divide. While the Israeli government had made strides after an international outcry there was more to be done to ensure Covid -19 vaccine equity. The nationalization of vaccines, lack of access to scientific information on the pandemic citizens, and failure to observe COVID-19 pandemic guidelines threaten the realization of this noble goal. Cooperation is essential because the world has become a zone of shared freedoms and what happens in one locality if not dealt with successfully will likely affect the rest of the world. The study used books, journal articles, newspapers, magazines, blogs, and records of organizations.

According to the United Nations Development Programme (UNDP, 2021) the Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by the United Nations in 2015 as a universal call to action to end poverty, protect the planet and ensure universal peace and prosperity by 2030. It appears that the COVID-19 pandemic entrenched its roots as the killjoy and life taker of the twenty-first century. While the United Nations Sustainable Development Goals (SDGs) bind 193 countries throughout the world, the advent of the COVID-19 pandemic stands in the way of realizing the above-mentioned goals. Hein & Paschke,(2020) noted that severe non-pharmaceutical strategies to deal with the pandemic have added to the great depression. The health care systems in developing countries that were already stressed will likely collapse thus undermining plans to attain universal health by 2030 (Lone & Ahmad, 2020).

The United Nations (2020) and van Zanten, & van Tulder, (2020) contend that the advent of the COVID-19 pandemic has seen the United Nations (UN) begin to view SDGs as a special vehicle for post-pandemic recovery and the realization of greener, more inclusive economies, and stronger, more resilient societies.

The 17 SDGs are integrated like an ecosystem and this implies that action in one area will affect outcomes in others and that development must equilibrate social, economic, and environmental sustainability (UNDP, 2021). While the COVID-19 pandemic threatens all 17 SDGs, the study will focus on SDG3. Nhamo, Chikodzi, Kunene, & Mashula, (2021) emphasized the

SGD 3 TARGETS	
Target, 3.8	Achieve universal health coverage, including financial risk protection, access to quality essential health care services, and access to safe, effective, quality, and affordable essential medicines and vaccines for all;
Target, 3b	Support the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries; provide access to affordable essential medicines and vaccines, following the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade-Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all.
Target, 3c	Substantially increase health financing and the recruitment, development, training, and retention of the health workforce in developing countries, especially in the least developed countries and Small Island Developing States (SIDS)
Target, 3d	Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction, and management of national and global health risks.

Source: United Nations (2015) and Word Health Organisation (WHO) Regional Office for Europe(2021)

importance of ensuring equitable access to health services in the fight against the COVID-19 pandemic. The authors' sentiments toward global calls to fight vaccine nationalism and apartheid as highlighted by Pūras, Shaheed, & Madrigal-Borloz, (26 March, 2020). Gonsalves, & Yamey, (2021) argued that "The people's vaccine campaign", led by the People's Vaccine Alliance (PVA), called on pharmaceutical corporations to allow the COVID-19 vaccines to be produced as widely as possible by sharing their knowledge free from patents or paywalls. The authors highlighted the need for renunciation of intellectual property (IP) protections on COVID -19 vaccines, transfer of technical knowledge from vaccine makers in the global north to regional hubs or directly to manufacturers in the global South, and the provision of massive subsidization of manufacturing in LMICs. However, while global support is welcome, the COVID-19 pandemic should be viewed as an opportunity to rethink and restrategise public health infrastructure and information systems as a way forward. The COVID-19 pandemic is an opportunity for institutions to prove their worthiness in saving humanity from the scourge

The United Nations and participating countries are committed to the realization of 13 targets, but for this chapter, the researcher zeroed in on selected targets from SDG3, as highlighted in the table below.

152

The COVID -19 Vaccination Debacle

The crisis of COVID-19 vaccine apartheid can be overcome by ensuring universal access to Covid-19 treatments and vaccines, but the matching threats of vaccine nationalism and pharmaceutical profit-making inhibit the realization of the noble goals of sustainable development (New Internationalist, May 2021)

Katz, Weintraub, Bekker, & Brandt, (2021) argued that the ability to vaccinate the world remained a moral obligation to protect everyone in addition to serving the interests of the rich countries concerning protection. The authors argued that it was immoral to have wealthy nations vaccinated first before others as this was tantamount to vaccine apartheid. Katz, Weintraub, Bekker, & Brandt, (2021) noted that investment in multilateral partnerships with a sense of shared commitment and employing a global allocation strategy that increases supply and manufacturing would enable the world to meet the imperative challenge of Covid-19 while generating sustainable infrastructures and health systems for the future. Brehm-Heeger (2021) argued that the ability to forge effective partnerships to achieve success demands a thoughtful and clear approach, especially during the current COVID-19 pandemic crisis. In addition to the above, Brehm -Heeger (2021) added that rapid planning and accelerated action serve as key ingredients to the partnership equation.

Khetrapal, & Bhatia, (2020), the UN SDG 3 is entwined with, and draws complementarity from other SDGs including, SDG 1 (Poverty), SDG 2 (Zero Hunger), SDG 4 (Quality Education), SDG 5 (Gender Equality), SDG 6 (Clean Water and Sanitation), SDG 13 (Climate Action), SDG 14 (Life under Water), SDG 15 (Life on Land) and SDG 17 (Partnerships for Goals). According to the authors, the COVID-19 pandemic has overburdened the health system, and this has been compounded by the limited capacity to provide services it has been hitherto extending to communities. In the wake of the COVID-19 pandemic, Iwuoha, & Jude-Iwuoha, (2020) argued that the feebleness of the healthcare system is under threat as evidenced by the lack of equipment, inadequate hospital spaces, understaffing of healthcare providers with the antecedent of uninsured citizens, and a few uncommitted health workers.

The COVID-19 vaccination drive has been affected by a wave of disinformation and misinformation. Abeysinghe, (2015) and Bamberg, & Andrews, (2004) state that anti-vaccine disinformation, conspiracy theories, and fake news can often be considered counternarratives or expressions of resistance. According to Bamberg, & Andrews, (2004) counter-narratives

153

or expressions of resistance originate from and are nourished by distrust in authorities and institutions, expressions of resistance to hegemonic ideologies and rules. Mills and Sivela (2021) argue that legislation that criminalizes the right to express legitimate concerns would only generate more misinformation. The aforementioned authors urged countries embarking on COVID-19 vaccination to focus more on building trust as a strategy to realize the sustainable reduction of misinformation about vaccination and to strengthen vaccine confidence and acceptance in the long run. Affelt (2021) argued that libraries of all types need to formulate a playbook plan to take the lead in public health emergencies going forward and be seen as an obvious resource instead of being viewed as an addendum. This would involve libraries strategically playing a role against misinformation and disinformation, helping patrons understand the uncommon verbiage arising from the COVID-19 pandemic, for example, social distancing, infodemic, and vaccination among others, and applying search skills to ensure patrons and policymakers access reliable scientific information and provide spaces to serve as problem-solving epicenters (Affelt, 2021).

Poole (2021) argued that there are lessons learned from COVID-19, for example, how misinformation and a public health threat share a common denominator; how information literacy can play a critical role in powering our national recovery and ensuring preparedness in dealing with the infodemic; how librarians have responded to the pandemic by being phenomenally creative, adaptable and resilient; how the skills of librarians skills have become transferable to new roles and the adaptation of technology without undermining the essential value offered by libraries to users.

MacDonald, Eskola, Liang, Chaudhuri, Dube, and Gellin, (2015) viewed vaccine hesitancy as the delay in acceptance, reluctance, or refusal of vaccination despite the availability of vaccination services. WHO (2020) viewed vaccine hesitancy as one of the top 10 threats to global health in 2019. Sallam, (2021) cited vaccine hesitancy, mass manufacturing of vaccines, their fair distribution across the world, and the uncertainty regarding their long-term efficacy as chief challenges that could affect the successful implementation of COVID-19 vaccination programs.

Peretti-Watel, Larson, Ward, Schulz, & Verger, (2015) described vaccine hesitancy as an all-encompassing grouping of delayed and/or refusal of vaccine uptake and potential decision-making category.

The afore-mentioned phenomenon results from a complex decision-making process, influenced by a wide array of contextual, individual and group, and vaccine-specific factors, including communication and media, historical

154

influences, religion/culture/gender/socioeconomic, politics, geographic barriers, experience with vaccination, risk perception, and design of the vaccination program.

Wagner, Masters, Domek, Mathew, Sun, Asturias, Ren, Huang, Contreras-Roldan, Gebremeskel, and Boulton, (2019) argued that vaccine hesitancy remains a common phenomenon globally, with inconsistency in the reasons behind refusal of vaccine reception. Karafillakis, & Larson, (2017) cited the perceived risks against the benefits, certain religious beliefs, and lack of knowledge and awareness as the main factors behind vaccination hesitancy.

Megget (2020) argued that while comparatively small, the anti-vaccination movement aggressively employed social media to intensify it is messaging and target people who are unsure about vaccines, particularly parent groups. Jamison, Broniatowski, Dredze, Wood-Doughty, Khan, & Quinn, (2020 noted that a scientific study of more than 500 Facebook advertisements conducted between December 2018 and February 2019 found that 145 featured anti-vaccination sentiments reaching audiences of between 5000 and 50 000 people. Stano (2020) viewed the Internet as a fertile ground for the breeding of global, online communities around conspiracy themes such as the moon hoax, the flat earth conspiracy, or anti-vaccination (Stano, 2020) Meadows, Tang, & Liu, (2019) noted that the anti-vaccination movements used to use heavily sensitive and subjective stories to persuade readers of their relevance. These counter-narratives include eschatological messages on the dangers associated with common vaccines, and the ongoing debate regarding the measles, mumps, and rubella vaccine (Naprawa, 2012). Yiannakoulias, Slavik, & Chase, (2019) noted that the anti-vaccination messages are generally easier to find, retrieve and share on the internet, because the content is more consumer-centric and user-friendly, as opposed to science-based articles on the pro-vaccine debate. Pullan, & Dey, (2021) called for the scientific community to focus also on raising public awareness and interaction with pro-vaccine online information apart from producing evidence-based research.

Pak, Adegboye, Adekunle, Rahman, McBryde, & Eisen. (2020) stated that globalization, urbanization, and environmental change have seen infectious disease outbreaks and epidemics on the rise and becoming a global threat that necessitates a collective response. International collective action among governments, non-government organizations, and private companies has been encouraged in building and financing technological platforms to accelerate the research on and development of the response to new pathogens with epidemic potential (Yamey, Schäferhoff, Aars, Bloom, Carroll, Chawla,

Dzau, Echalar, Gill, Godal, and Gupta, (2017) and Katz, Wentworth, Quick, Arabasadi, Harris, Geddes, & Jha, 2018).

Nigam, (2021) noted that the COVID-19 pandemic has proved that the interconnectedness of the world has become a reality despite the graded and stratified structure reflecting lop-sided systemic structural socio-economic inequalities. According to the author, the COVID -19 pandemic has exposed the authority of the neoliberal, nationalist paradigm that is deeply entrenched affecting the poorest of the poor.

Harris, & Moss, (2021) noted that globally the demand for COVID-19 vaccine and its distribution has become topical issues as governments grapple to secure adequate supplies for their citizens. The issue of availability, cost, and effectiveness of different vaccines has become regular news items and remains under increasing scrutiny (Harris, & Moss,2021).

Sekalala, (2021) noted that the development of several COVID -19 vaccines gave hope to the end of the pandemic for at least the 14% of the world's population fortunate enough to live in countries that have pre-ordered vaccines while the rest of the world's population in LMICs, will still have to wait for access. The United Nations (UN) (2021) highlighted that there were still grave questions about access to vaccines for everyone irrespective of their socioeconomic and political standing.

During the early years of the COVID-19 pandemic, Pūras, Shaheed, & Madrigal-Borloz, (26 March 2020) representing UN experts postulated that it was wrong and a human rights violation to discriminate against people in the provision of vaccinations and they advocated for the human rights-based approach as an effective way in the prevention of major public health threats "Everyone, without exception, has the right to life-saving interventions and this responsibility lies with the government. The scarcity of resources or the use of public or private insurance schemes should never be a justification to discriminate against certain groups of patients," (United Nations, 2020).

Subbaraman, (2020) notes that priority access to COVID-19 vaccines starts from healthcare workers, then medically vulnerable people who include older people living in crowded settings, and individuals with multiple existing conditions, such as serious heart disease or diabetes, that put them at risk of more serious COVID-19 infection. The plan also prioritizes workers in essential industries, such as public transport, because their jobs place them in contact with many people. Similarly, people who live in certain crowded settings, including homeless shelters and prisons are referred to as deserving of early access. Many nations already have general vaccine-allocation plans,

but they are tailored for an influenza pandemic rather than the new coronavirus (Subbaraman, (2020).

Eccleston-Turner, & Upton, (2021) stated that WHO established the Access to COVID-19 Tools (ACT) Accelerator, a global initiative designed to harbor international cooperation and knowledge regarding the pandemic. The Coalition for Epidemic Preparedness Innovations (CEPI); Gavi, the Vaccine Alliance; and the WHO formed the COVAX Facility in early 2020 as a key pillar in widening access to vaccines and encouraging multidimensional cooperation to increase access to vaccines in all participating countries (Eccleston-Turner, & Upton, 2021).

Basrur, & Kliem, (2021) the theory of realism in international relations is premised on the notion that due to the systemic trust deficit in international affairs during a crisis nation-states will turn to self-help and zero-sum calculations rather than to cooperative collective action. The authors argue that this scenario is manifested in the global management of the Covid-19 crisis because cooperation only occurs when it does not clash with national interest as evidenced by the national self-help and "us first" mentality that typifies the global management of Covid-19 and its consequences. A classic example of the failure of international cooperation was seen when Italy, one of the worst affected countries in the world, requested the European Union's (EU) requested fellow EU members for emergency relief with critical medical supplies and its neighbors violated the EU's single-market spirit by decreeing export bans on pharmaceutical equipment (Braw, 2020).

Nabipour (2021) argued that the theory of realism was apt in defining risks and threats than suggesting solutions, for example, its explanatory power lies in diagnosis rather than treatment or prevention. The author further contended that unilateralism and state-based measures, s in the wake of the COVID-19 pandemic such as border controls failed to protect states from the pandemic as evidenced by increases in numbers of COVID-19 pandemic infections.

WHO (February, 2021) states that 92 low- and middle-income economies (LMIE) will be able to access COVID-19 vaccines through the COVAX Facility Advance Market Commitment (AMC). The COVAX AMC is the ground-breaking financing instrument that will support the participation of 92 low- and middle-income economies in the COVAX Facility thus enabling access to donor-funded doses of safe and effective COVID-19 vaccines. According to WHO (February, 2021), the AMC92 countries must develop COVID-19 National Deployment and Vaccination Plans (NDVPs) which are reviewed by WHO, UNICEF, and other partners to help the country be sure the plan is as good as it can be. Hassoun, (2021) views COVAX as the

vaccines pillar of the Access to COVID-19 Tools (ACT) Accelerator) for a progressive fight against the COVID -19 pandemic and the drive towards distributing 2 billion vaccinations by the end of next year, even though the USA has refused to join and even those rich countries that have joined are entering into bilateral deals with pharmaceutical companies to buy up the supply. According to the author vaccine, nationalism fails to respect basic human rights and the people who have entitled to such rights. Hassoun (2021) states that rich countries have contributed to global poverty through a shared and violent history of colonialism and oppression and profit from instituting, upholding, and sustaining coercive rules, for example, international trade that often exacerbate, rather than alleviate, global poverty.

The WHO plan of action to distribute COVID -19 vaccines through COVAX involves the allocation of vaccine doses to participating countries in proportion to their population size. Thereafter, when each country has received vaccine doses for 20% of its population then each country's covid risk profiles will be considered in a succeeding phase of vaccine distribution.

Herzog, Norheim, Emanuel, & McCoy, (2021) contends that the proportional allocation of vaccines through Covax is fairer and more efficient than a clumsy approach in which countries compete in the market to secure as many vaccines as possible for their citizens. However, the aforementioned authors argue that proportional allocation fails to meet WHO's ethical principles for vaccine allocation and they advocate an alternative approach known as the Fair Priority Model (Emanuel, Persad, Kern, Buchanan, Fabre, Halliday, Heath, Herzog, Leland, Lemango, and Luna, 2020) which would be better aligned with WHO's stated values and better suited to realizing Covax's promise of fair and equitable access to covid-19 vaccines.

Dal-Ré, & Camps, (2021) the Fair Priority Model defends benefiting people and limiting harm, prioritizing those who are disadvantaged and recognizing that all people have the same dignity. Emanuel et al (2020) argued that the aforementioned model focuses on three types of harm caused directly or indirectly by COVID-19:
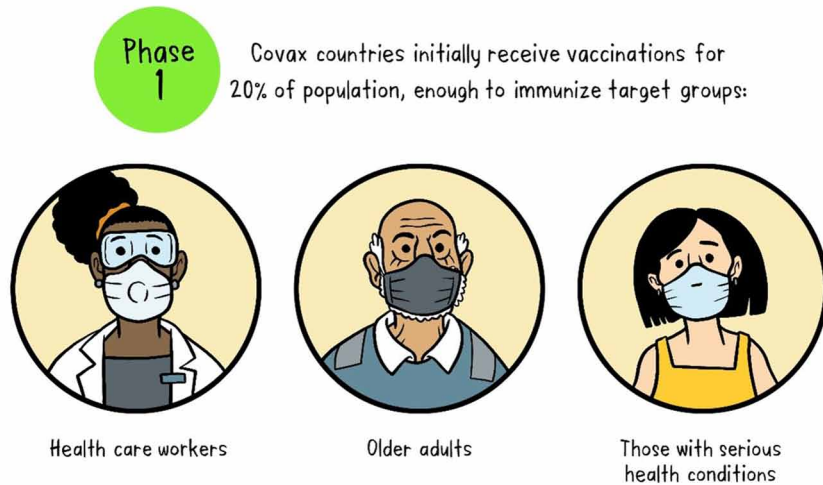
death and permanent organ damage,
health care system strain and stress (e.g., increased mortality rates from other
        pathologies); and
economic destruction (e.g., increased unemployment, poverty, and hunger).

The Fair Priority Model proposes three phases in which the priority is to prevent the most urgent harm as outlined below;

158

Figure 1. Phase I: The COVID-19 vaccination program
Adapted from WHO (2021) from https://www.who.int/news-room/feature-stories/detail/access-and-allocation-how-will-there-be-fair-and-equitable-allocation-of-limited-supplies

Phase 1- aims to reduce premature death, something especially present in the poorest countries, and other irreversible direct and indirect health impacts;

Phase 2 – focuses on a reduction of economic and social deprivations; and

Phase 3 - reduce community transmission, which will facilitate economic and social activities to the pre-pandemic levels.

According to the WHO Strategic Advisory Group of Experts on Immunization (March, 2021), the prioritized groups include:

Frontline workers in health and social care settings;

People over the age of 65; and

People under the age of 65 have underlying health conditions that put them at a higher risk of death.

Figure 2. Phase II of the COVID-19 vaccination program
Adapted from WHO (2021) from https://www.who.int/news-room/feature-stories/detail/access-and-allocation-how-will-there-be-fair-and-equitable-allocation-of-limited-supplies

The phases COVID-19 vaccination phases proposed by WHO (2021) include:

Phase one- Members of the COVAX Facility will have access to enough vaccines to immunize their population's priority groups, doses will be made available to participating countries simultaneously until they can cover approximately 20% of the population of every country.

By choosing to set an initial prioritization for health workers, WHO wants to ensure that volumes meet the needs of well-resourced health systems while not penalizing countries with a lower proportion of health and social care workers (WHO, 2021).

Phase Two

According to WHO (2021) once the objectives of phase 1 have been achieved additional doses will be made available depending on funding. WHO (2021) states that the pace at which countries would receive additional doses of

160

vaccine would be determined by an assessment of their risk at any given time if there remain substantial supply limitations.

WHO (2021) states that members of the COVAX AMC should develop a National Deployment and Vaccination Plan (NDVP) as an operational plan to implement and monitor the COVID-19 vaccination rollout in a country. The NDVP serves as the country-specific plan and main framework for a country's vaccine introduction and vaccination efforts (WHO, 2021).

Libraries amidst the COVID -19 pandemic and vaccination

Libraries have responded to the COVID -19 pandemic and vaccination rollout by assuming pro-active roles in supporting or augmenting government initiatives to vaccinate their citizens. The literature review provides cases of such initiatives in various countries throughout the world. The State Library of Iowa (2021) noted that since libraries are historically regarded as reliable and trustworthy foundations of information in the community, there is a possibility that patrons would expect such institutions to provide them with answers on the COVID-19 vaccine and the processes, procedures, and timing of scheduling appointments. Yuvaraj, (2020) argued that during the COVID-19 pandemic and infodemic, the role of librarians has of necessity lengthened significantly as evidenced by their roles in generating awareness, distilling fake information, supporting researchers and faculty members, providing reference and document delivery services, and providing people with information.

Urban Libraries Council (2021), confirmed that libraries across North America were working hand-in-hand with their local and state governments and other community leaders to raise awareness about access to the available vaccines, countering myths and helping out with the registration process and other information hygienic processes of recommending credible sites for people to receive their shots.

Blazer (2021) noted that since the onset of the COVID-19 pandemic many American libraries have proved their worthiness by serving as testing sites, manufacturers of 3D-printed personal protective equipment, donation centers for food pantries, and recently, serving as sites for vaccinations. The author noted that while the COVID-19 pandemic was a tragedy, it also provided libraries an opportunity for libraries to prove to communities that they are indispensable in the wake of raising awareness of national vaccination programs.

The United Kingdom has seen the development of collaborative initiatives between health entities and libraries in the drive to reach out to bona fide adults to access the Covid-19 pandemic vaccination (Middlesex-London Health Unit, 2021). A classic example is a partnership between the Middlesex-London Health Unit, Middlesex County Library, and London Public Library to mobilize eligible adults to be informed to secure the Covid -19 vaccines. Other similar initiatives include the Sussex County Libraries and Beebe Healthcare to widen access to COVID-19 vaccinations for the benefit of the community. Brehm-Heeger (2021) viewed public libraries as an indispensable connection in the chain for connecting community members with the technology they want and need. According to the author this is achieved through pro-active innovation, creativity, persistence, and strategic partnerships. Libraries as community connectors are endowed with a rich social capital that spans all demographic groups and social strata consisting of networks and linkages with patrons and this is critical for the success of the vaccination program. Blazer (2021) argued that libraries are suitable for the roles they are playing in the wake of the COVID-19 pandemic because they are usually open seven days a week, easily accessible even by those who are wheelchair-bound, and often boast safety features such as security cameras. Affelt (2021) viewed libraries as egalitarian spaces that welcome all and sundry.

Deschutes Public Library (2021) in the United States hosted weekly drop-in COVID vaccination clinics coordinated by Deschutes County Health Services. Visitors were allowed to come without an appointment for these free clinics for COVID -19 vaccination Deschutes Public Library (2021)

Over, the years, libraries during the pandemic, librarians have deployed a wide array of professional responses to the perceived threats by building balanced collections, providing authoritative information to inquirers, assisting journalists in refuting fake news, educating users about its negative effects, and emphasizing the role of libraries as safe democratic physical and virtual spaces to access (Flynn & Hartnett 2018). Lor, Wiles, and Britz (2021) urged librarians to take care that in the selection of materials they should not ignore the voices of subaltern groups who rely on the indigenous paradigm as their epistemological base in dealing with the COVID-19 pandemic. The authors, argued that respect for alternative viewpoints must be balanced with the health risks to library clients who may access inaccurate information on the COVID-19 pandemic and infodemic.

FUTURE RESEARCH DIRECTIONS

There is need to conduct further research focussing on how the world as a collective can come up with strategies to foster egalitarian access to vaccines. The onus is also on libraries to be innovative in responding to the complex and dynamic needs of users with regards to access to trustworthy information relating to the COVID-19 vaccinations. This will be useful in empowering citizens to make informed decisions regarding vaccination uptake. The world is in a crisis and we need each other because we all bleed red blood and access to vaccinations and knowledge on how to develop them should be discoverable, findable, accessible, retrievable and shareable for the benefit of humanity irrespective of socio-economic and racial status forward to an egalitarian society.

CONCLUSIONS

The COVID-19 pandemic has exposed the porousness of the world to the virus as evidenced by the continued loss of lives, ill-preparedness of nations to respond, lack of resources to tackle the pandemic, failure to maintain healthy ecosystems to protect humanity from diseases, poor health systems, and research infrastructure among other factors. Access to credible information remains one of the key pillars in the fight against the COVID-19 pandemic and hence the need to strengthen the information ecosystem and its constituencies that including libraries and related institutions. Furthermore, the COVID-19 vaccination roll-out programs should be viewed as an opportunity for all institutions funded by public funds to prove their worthiness. It should be noted that the COVID-19 pandemic is not the last hence the need to invest in state-of-the-art health services facilities, internet connectivity, access to information, and research and development for the realization of a sustainable future. This is an opportunity for all key stakeholders in the national development milieu to rethink and redefine their roles to remain relevant. The reengineering of the trajectory and response to natural and manmade disasters is an urgent need and lessons learned from the COVID-19 pandemic serve as a foundation for future strategic planning.

REFERENCES

Abbas, Q., Mangrio, F., & Kumar, S. (2021). Myths, beliefs, and conspiracies about COVID-19 Vaccines in Sindh, Pakistan: An online cross-sectional survey. Authorea Preprints. doi:10.22541/au.161519250.03425961/v1

Abrusci, E., Dubberley, S., & McGregor, L. (2020). *An 'Infodemic 'in the Pandemic: Human Rights and Covid-19 Misinformation*. http://repository. essex.ac.uk/28053/1/036.pdf

ACRL. (2016). *Framework for Information Literacy for Higher Education*. https://www.ala.org/acrl/standards/ilframework

Ahinkorah, B. O., Ameyaw, E. K., Hagan, J. E. Jr, Seidu, A. A., & Schack, T. (2020). Rising above misinformation or fake news in Africa: Another strategy to control COVID-19 spread. *Frontiers in Communication*, *5*, 45. doi:10.3389/fcomm.2020.00045

Al-Kuraishy, H. M. (2021). Witchcraft and Myths about Covid-19 in Iraq. *Journal of Conventional Knowledge and Holistic Health*, *5*(1).

Allcott, H., & Gentzkow, M. (2017). *Social media and fake news in the 2016 election* (No. w23089). National Bureau of Economic Research. https://www. nber.org/system/files/working_papers/w23089/w23089.pdf

Burkhardt, J. M. (2017). History of fake news. *Library Technology Reports*, *53*(8), 5–9.

Caselli, D. (2020a, March 1). Bibliotecari al tempo del Coronavirus. *Dispensatrice di storie*. https://ladispensatricedistorie.blogspot.com/2020/03/i-bibliotecari-al-tempo-del-coronavirus.html?spref=fb&fbclid=IwAR2gXm4_jBE9QJldb2P40v7RfSAGFbdfs7SR737Loa7mxvAEKKCuXUc6ML0

Caselli, D. (2020b). Bibliotecari in quarantena. *Bibelot*, *26*(1). https://riviste. aib.it/index.php/bibelot/issue/view/1168

CDC. (2018a). World Leprosy Day. *Cent. Dis. Control Prev*. https://www. cdc.gov/features/world-leprosy-day/index.html

CDC. (2020b). *How COVID-19 spreads*. https://www.cdc.gov/ coronavirus/2019- ncov/prevent-getting-sick/how-covid-spreads. html?CDC_AA_refVal=https%3A%2F%2Fwww. cdc.gov%2Fcoronavirus%2F2019-ncov%2Fprepare%2Ftransmission.html

CepaluniG.DorschM.BranyiczkiR. (2020). Political regimes and deaths in the early stages of the COVID-19 pandemic. *Available at* SSRN 3586767. doi:10.2139/ssrn.3586767

Cheng, A. (2020). *In Coronavirus War Of Words With The U.S., China Pulls No Punches*. https://www.npr.org/2020/05/11/852645612/in-coronavirus-war-of-words-china-pulls-no-punches

Christensen, T. J. (2020). *A modern tragedy? COVID-19 and US-China relations*. Brookings Institution. https://www.brookings.edu/wp-content/uploads/2020/05/FP_20200511_covid_us_china_christensen_v3.pdf

Cooke, N. A. (2018). *Fake News and Alternative Facts: Information Literacy in a Post-Truth Era*. American Library Association.

Cooper, G. F. (2017). *'Fake news' named word of the year, even though it's two words*. https://www.cnet.com/news/fake-news-word-of-the-year-collins-dictionary/

De Paor, S., & Heravi, B. (2020). Information literacy and fake news: How the field of librarianship can help combat the epidemic of fake news. *Journal of Academic Librarianship*, *46*(5), 102218. doi:10.1016/j.acalib.2020.102218

deLisle, J. (2021). When Rivalry Goes Viral: COVID-19, US-China Relations, and East Asia. *Orbis*, *65*(1), 46–74. doi:10.1016/j.orbis.2020.11.003

DisasterM. R. A. (2002). https://www.gov.za/sites/default/files/gcis_document/202003/regulations.pdf

Dongardive, P. (2013). Information repackaging in library services. *International Journal of Scientific Research*, *2*(11), 204–209.

Durodolu, O. O., Ibenne, S. K., & Dube, T. V. (2021). New mental costumes: Leveraging ACRL's value of information frame in dealing with infodemics in a post-truth era. *College & Research Libraries News*, *82*(4), 175. doi:10.5860/crln.82.4.175

Dutta, S., Acharya, S., Shukla, S., & Acharya, N. (2020). COVID-19 Pandemic-revisiting the myths. *SSRG-IJMS*, *7*(5), 7–10. doi:10.14445/23939117/IJMS-V7I5P103

Fisher, S. (2020). *A war of words: china tells us to stop misleading world about origin of covid-19*. https://ewn.co.za/2020/05/06/a-war-of-words-china-tells-us-to-stop-misleading-world-about-origin-of-covid-19

Funke, D., & Flamini, D. (2021). *A Guide to Anti-Misinformation Actions around the World*. Poynter. https://www.poynter.org/ifcn/anti-misinformation-actions

Gelfert, A. (2018). Fake News: A Definition. *Informal Logic*, *38*(1), 84–117. doi:10.22329/il.v38i1.5068

Gilson, L. L., & Goldberg, C. B. (2015). Editors' Comment: So, What Is a Conceptual Paper? *Group & Organization Management*, *40*(2), 127–130. doi:10.1177/1059601115576425

Greifeneder, R., Jaffe, M., Newman, E., & Schwarz, N. (2021). *The psychology of fake news: Accepting, sharing, and correcting misinformation*. https://library.oapen.org/bitstream/handle/20.500.12657/46921/9781000179033.pdf?sequence=1&isAllowed=y

Guess, A., Nyhan, B., & Reifler, J. (2018). Selective exposure to misinformation: Evidence from the consumption of fake news during the 2016 US presidential campaign. *European Research Council, 9*(3), 4. http://www.ask-force.org/web/Fundamentalists/Guess-Selective-Exposure-to-Misinformation-Evidence-Presidential-Campaign-2018.pdf

Jacobson, T. E., & Mackey, T. P. (2013). Proposing a metaliteracy model to redefine information literacy. *Communications in Information Literacy*, *7*(2), 84–91. doi:10.15760/comminfolit.2013.7.2.138

Kavanagh, M. M., & Singh, R. (2020). Democracy, Capacity, and Coercion in Pandemic Response: COVID-19 in Comparative Political Perspective. *Journal of Health Politics, Policy and Law*, *45*(6), 997–1012. doi:10.1215/03616878-8641530 PMID:32464665

Khalid, Z., Yousaf, M. A., Tu-Allah Khan, A., Shakoori, F. R., Munir, M., & Shakoori, A. R. (2020). Debunking Myths about COVID-19, Paranoiac Misconceptions, Recent Developments and its Current Stance. *Pakistan Journal of Zoology*, *52*(6). Advance online publication. doi:10.17582/journal.pjz/20200608144416

Kosciejew, M. (2021). The coronavirus pandemic, libraries and information: a thematic analysis of initial international responses to COVID-19. Global Knowledge, Memory and Communication, 70(4/5).

Lin, H. Y. (2021). COVID-19 and American Attitudes toward US-China Disputes. *Journal of Chinese Political Science*, *26*(1), 139–168. doi:10.100711366-020-09718-z PMID:33519173

Mackey, T. P. (2020). Embedding Metaliteracy in the Design of a Post-Truth MOOC: Building Communities of Trust. *Communications in Information Literacy*, *14*(2), 9. doi:10.15760/comminfolit.2020.14.2.9

Mian, A., & Khan, S. (2020). Coronavirus: The spread of misinformation. *BMC Medicine*, *18*(1), 1–2. doi:10.118612916-020-01556-3 PMID:32188445

Ng, K., Poon, B.H., Kiat Puar, T.H., Shan Quah, J.L., Loh, W.J., Wong, Y.J., Tan, T.Y., & Raghuram, J. (2020). COVID-19 and the risk to health care workers: A case report. *Annls Intern. Med*. doi:10.7326/L20-0175

Quandt, T., Frischlich, L., Boberg, S., & Schatto-Eckrodt, T. (2019). Fake news. *The International Encyclopedia of Journalism Studies*, 1-6.

Radu, R. (2020). Fighting the 'Infodemic': Legal Responses to COVID-19 Disinformation. *Social Media + Society*, *6*(3). doi:10.1177/2056305120948190 PMID:34192029

Revez, J., & Corujo, L. (2021). Librarians against fake news: A systematic literature review of library practices (Jan. 2018–Sept. 2020). *Journal of Academic Librarianship*, *47*(2), 102304. doi:10.1016/j.acalib.2020.102304

Rules, R. C. T. A. I. (2018). *National Science Foundation*. https://thefederalregister.org/83-FR/31783/2018-14544.pdf

Sahoo, S., Padhy, S. K., Ipsita, J., Mehra, A., & Grover, S. (2020, December). Demystifying the Myths About COVID-19 Infection and Its Societal Importance. *Asian Journal of Psychiatry*, *54*, 102244. doi:10.1016/j.ajp.2020.102244 PMID:32593121

Shao, C., Ciampaglia, G. L., Flammini, A., & Menczer, F. (2016, April). Hoaxy: A platform for tracking online misinformation. In *Proceedings of the 25th international conference companion on world wide web* (pp. 745-750). http://gdac.uqam.ca/WWW2016-Proceedings/companion/p745.pdf

Sharma, P., Raje, M., Savant, S., & Savant, R. (2021). When Infodemic Overtakes Covid-19 in Spreading Far and Wide. *Annals of the Romanian Society for Cell Biology*, 4721–4730.

Sharma, Y. (2020). *COVID-19 research checks could deter global collaboration*. https://www.universityworldnews.com/post.php?story=20200415141352492

Statutory Instrument No. 61 of 2020 Emergency Powers Act (cap. 22:04) Emergency Powers (covid-19) Regulations, 2020 (Published on 2nd April, 2020 Botswana Extraordinary Government Gazette https://bw.usembassy.gov/wp-content/uploads/sites/125/Emergency-Powers-COVID-19-Regulations-2020.pdf

Statutory Instrument No. 61 of 2020 Emergency Powers Act (cap. 22:04) Emergency Powers (covid-19) Regulations, 2020 (Published on 2nd April, 2020 Botswana Extraordinary Government Gazette https://bw.usembassy.gov/wp-content/uploads/sites/125/Emergency-Powers-COVID-19-Regulations-2020.pdf

Tammaro, A. M. (2020). COVID 19 and Libraries in Italy. *The International Information & Library Review*, *52*(3), 216–220.

Thomson, S., & Ip, E. (2020). COVID-19 emergency measures and the impending authoritarian pandemic. *Journal of Law and the Biosciences*. http://covidseries.law.harvard.edu/wp-content/uploads/2020/10/Thomson-and-Ip-on-Authoritarian-Pandemic-2020.pdf

UNESCO. (2018). *Journalism, "fake news" and disinformation: a handbook for journalism education and training*. https://sanef.org.za/wp-content/uploads/2019/02/UNESCO-Journalism-Fake-News-and-Disinformation-Handbook-for-Journalism-Education-and-Training-2018.pdf

U.S. Congress. Senate, Justice for Victims of Coronavirus Act, S 3588, 116th Cong., 2d sess., introduced in Senate May 4, 2020, https://www.congress.gov/116/bills/3588/BILLS-116s3588is.pdf

van der Linden, S., Roozenbeek, J., & Compton, J. (2020). Inoculating Against Fake News About COVID-19. *Frontiers in Psychology*, *11*, 2928. doi:10.3389/fpsyg.2020.566790 PMID:33192844

von Hein, M. (2020). *Coronavirus pandemic further strains US -China relations*. https://www.dw.com/en/coronavirus-pandemic-further-strains-us-china-relations/a-53650763

168

Wang, N., Li, S. Y., Yang, X. L., Huang, H. M., Zhang, Y. J., Guo, H., Luo, C. M., Miller, M., Zhu, G., Chmura, A. A., Hagan, E., Zhou, J. H., Zhang, Y. Z., Wang, L. F., Daszak, P., & Shi, Z. L. (2018). Serological evidence of bat SARS-related coronavirus infection in humans, China. *Virologica Sinica*, *33*(1), 104–107. doi:10.100712250-018-0012-7 PMID:29500691

Wang, Q., & Yu, C. (2020). The role of masks and respirator protection against SARS-CoV-2. *Infection Control and Hospital Epidemiology*, *41*(6), 746–747. doi:10.1017/ice.2020.83 PMID:32192550

Wang, X., Pan, Z., & Cheng, Z. (2020). Association between 2019-nCoV transmission and N95 respirator use. *The Journal of Hospital Infection*, *105*(1), 105–105. doi:10.1016/j.jhin.2020.02.021 PMID:32142885

Wang, Y., McKee, M., Torbica, A., & Stuckler, D. (2019). Systematic literature review on the spread of health-related misinformation on social media. *Social Science & Medicine*, *240*, 112552. doi:10.1016/j.socscimed.2019.112552 PMID:31561111

Wardle, C., & Derakhshan, H. (2017). Information disorder: Toward an interdisciplinary framework for research and policy making. *Council of Europe Report, 27*, 1-107. http://tverezo.info/wp-content/uploads/2017/11/PREMS-162317-GBR-2018-Report-desinformation-A4-BAT.pdf

World Health Organization (WHO). (n.d.). *Coronavirus disease (COVID-19) advice for the public: Myth busters.* https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public/myth-busters

Xi, J. (2020). *Fighting COVID-19 through Solidarity and Cooperation Building a Global Community of Health for All*. Ministry of Foreign Affairs of the People's Republic of China. https://www.fmprc.gov.cn/mfa_eng/zxxx_662805/t1780221.shtml

Yamin, M. (2020). Counting the cost of COVID-19. *International Journal of Information Technology*, *12*(2), 311–317. doi:10.100741870-020-00466-0 PMID:32412538

Zhang, X., & Ghorbani, A. A. (2020). An overview of online fake news: Characterization, detection, and discussion. *Information Processing & Management*, *57*(2), 102025. doi:10.1016/j.ipm.2019.03.004

Zheng, W. (2020). *Chinese Communist Party celebrates 99th anniversary by praising coronavirus success*. https://www.scmp.com/news/china/politics/article/3091424/chinese-communist-party-celebrates-99th-anniversary-praisingZheng

KEY TERMS AND DEFINITIONS

Vaccine: Preparation that is used to stimulate the body's immune response against diseases. It is usually administered through needle injections, but some can be administered by mouth or sprayed into the nose.

Sustainable development: The organizing code for meeting human development goals while instantaneously sustaining the ability of natural systems to provide the natural resources and ecosystem services based upon which the economy and society depend.

Vaccine hesitancy: The postponement in acceptance or rebuttal of vaccination despite the availability of vaccination services. Vaccine hesitancy is complex and context-specific, varying across time, place, and vaccines.

Vaccine apartheid; The breach in vaccine distribution between developed countries and low- and middle-income countries across Latin America: Africa, and Asia.

Libraries: Virtual or physical oasis of knowledge that fulfills people's epistemological needs through a systematic methodology of information dissemination.

Chapter 9
Opportunities and Challenges Offered by the "New Normal" in the Book Value Chain

ABSTRACT

The impact of the COVID-19 pandemic was felt in all industries including the book value chain. This chapter documents the opportunities and challenges offered by the COVID-19 pandemic in the book industry. Those affected include writers, publishers, booksellers, librarians, and readers. A structured literature review was done, and interviews were conducted with five librarians, five readers, five publishers, five booksellers, and five writers chosen using purposive sampling to establish how they have been dealing with challenges and opportunities that were offered by the COVID-19 pandemic in Zimbabwe. Personal experiences were also used as a writer and librarian to point out the impact of COVID-19. The data was analysed using content analysis and thematically presented. The findings showed that all the stakeholders were affected during this period. The adoption of the e-publishing model is recommended to ensure the survival of all the stakeholders of the publishing industry in the new normal.

INTRODUCTION

The book sector, similar to some other industry, was extraordinarily affected by the COVID-19 pandemic. The Coronavirus crisis affected not just the

entire value chain from writers to bookshops but in addition the readers. The creation, production, distribution, promotion and sales of books went on standstill while readers were at home with more opportunity to peruse yet less access to books during the lockdown time frame (Federation of European Publishers, 2020). Many countries imposed lockdown measures leading to the closure of non-essential shops and activities which included book shops, book publishers and libraries of all types. This study documents the impact of COVID-19 pandemic on the book publishing process and how stakeholders responded to the crisis. It has been noted that digital is not any add on service anymore but there is a digital transformation which is customer driven and central to the agenda. In order for stakeholders of the book industry to survive and grow post COVID-19, there is need for a digital mindset (Brinton, 2020). The objectives of the chapter are:

a) To examine the book value chain in the 'new normal'.
b) To examine the opportunities offered by the COVID-19 pandemic to the book industry.
c) To discuss the challenges offered by the COVID-19 pandemic to the book industry.
d) To proffer solutions to the challenges that are faced by stakeholders in the book value chain in the 'new normal'.

PROBLEM STATEMENT

The COVID-19 pandemic led to the closure of schools and other services including the publishing industry worldwide. The closure of schools and libraries automatically stops the sale of physical books and bookshops were also closed thus terminating the possibility of selling books (African Publishers Network, 2020). Mashava (2017) pointed out that accessibility of Zimbabwean local content is erratic online since publishers are still concentrating on producing print publications as opposed to the global trends in the book production process. In 2015 stakeholders in the book industry were encouraged to migrate to digital platforms to curb the high production costs and ensure affordability (Samukange 2015). This was necessitated by globalization and the emergence of digital citizenship which is digital literate. Libraries are also said to hold limited numbers of local books as they depend solely on donations from outside the country (Mashava 2017). In Zimbabwe, there is also lack of financial and institutional support for the formal book publishing

172

and distribution industry leading to few books being published (Samukange, 2015). The question that should be answered is how the COVID-19 affected the book publishing industry since the e-book publishing model is not well developed in Zimbabwe.

THE BOOK VALUE CHAIN AND COVID-19 PANDEMIC

WIPO (n.d) indicated that the book publishers do not work in isolation but there is a chain which starts with the creators and ends with consumers throughout the stages of creation, production, dissemination and consumption. Various stakeholders including the authors, publishers, bookshops, libraries, and readers all work together in the production of the reading materials and all these were greatly affected by the COVID-19 pandemic. There are changes that are taking place in the book production process which were regarded as areas of strategic impact to publishers and printers and the changes were worsened by the COVID-19 pandemic (Conley, 2019). The retail distribution model is changing due to the growth of self-publishing and online selling of books via platforms such as Amazon. Paper is in short supply and mills are either closing down or changing their products to more profitable and easier to manufacture products. Shortage of skills and labour to run some presses especially in the bindery section as people move to less demanding and better paying jobs. This has greatly affected the return on investment of these publishers.

The strategic issues noted above shows that the book value chain is changing and there is need to aggressively reorganize it by taking advantage of the ever changing technologies that are used in the book production and distribution processes. The traditional supply chain of the book publishing industry is changing due to the digital revolution. Most of the books are being produced in e-format changing the roles of the authors, publishers, booksellers, and libraries. The COVID-19 pandemic greatly affected the economy of most countries, Zimbabwe included. People were forced to work from home and this can be a permanent shift in publishing workflows. It has been noted that those with work which can be done remotely can continue to work from home until further notice (Cader, 2020). Personal income and consumer spending were negative during the lockdown period (Guren, Mcllroy and Sieck, 2021). These authors noted that the electronic book publishing industry performed well during the imposed lockdown period but the bookstores were greatly affected since there was a direct link from the producer to the consumer.

Brinton (2020) noted that the key points in the publishing industry during the COVID-19 era are:

1. The challenges are balanced by opportunities such as more digital delivery, more efficient systems and greater collaborations.
2. Delivery mechanisms should be adapted to ensure that the right products in the right media are offered and delivered since consumption has not reduced.
3. There is need to support improved resource allocation in order to survive in the COVID-19 era.
4. Changes to the cost base may be done by redeploying staff and rethinking premises.
5. There is need for good leadership to accommodate adaptive and flexible remote working.
6. There is need to ensure access and implementation of licenses that permit non-commercial use.

STAKEHOLDERS IN THE BOOK VALUE CHAIN

Authors are regarded as the creators of the reading materials who create and write books that would be available on the market. The materials would go under a rigorous peer review process in order to be accepted for production. The editors are responsible for checking the script and proofread it to ensure that it is publishable. However, due to the changes that are taking place in the book value chain, almost everyone has a chance to self-publish and they can sell their books on their own distorting the original book value chain (Ho, Wang, Cheng, 2011). The publishers have publishing houses that are turn the manuscript into an actual book which can either be print or electronic. Booksellers still exist for both print and electronic books despite the fact that the electronic format is replacing the paper format. Libraries buy the books from the booksellers or directly from the authors and process them for use by the readers.

OPPORTUNITIES OFFERED BY THE COVID-19 PANDEMIC

The switch to online learning was an opportunity to some publishers who created platforms for the provision of digital learning materials. This led to

174

the boom in digital learning materials. Some publishers covered the cost for distributing books for public university students via courier services in Greece (Federation of European Publishers, 2020). Some publishers provided their digital materials for free given the challenges posed by the COVID-19 pandemic (Publishers Association, 2020; Association of American Publishers, 2020). However, this strategy though not sustainable for the production and distribution of quality educational content, it poses a risk of an attitude not to pay for digital content among the users.

Publishers were investing in digital learning solutions although the uptake in some institutions was low pre COVID-19 pandemic. Conley (2019) pointed out that the book publishers are now moving the revenue model from printed books to digital platforms that can supplement or replace print. As a result of the pandemic, their investments were now paying off since people were forced to use electronic resources. As an immediate response to the impact of COVID-19 pandemic, most publishers provided their services for free and this was an opportunity for them to market their resources and get clients who can then utilize these resources during the pandemic and post pandemic period. The COVID-19 pandemic caused an explosion in e-book selling and Amazon sales increased by 37% in three months

The COVID-19 pandemic presented an opportunity for libraries to acquire electronic books so that they can make them accessible to their clients who were reading from home. There was no physical access to library buildings and most libraries worked to provide remote access of electronic resources to their patrons. Libraries in Paris at the end of March recorded a fivefold increase in e-book downloads through their e-lending systems (Federation of European Publishers, 2020). This shows that although the schools and colleges were physically closed, there was need to continue learning since most of the classes were delivered online in primary, secondary schools and higher education institutions. The schools designed and implemented new remote learning programmes leading to the demand of electronic resources to provide reading materials to their students (Guren, McIlroy and Sieck, 2021). The authors added that in February 2020, the demand of electronic books exploded and most publishers eased their restrictions on accessing the e-books. The COVID-19 pandemic provided a platform for negotiation between the publishers and libraries on the terms of offering e-books since previously most agreements were lease payments. Library advocates also got an opportunity to request for funding from the government. This showed that the COVID-19 pandemic "reinforced and accelerated trends in library investments toward digital resources and services" (Kelly, 2020). Libraries

got an opportunity to market open access and other free resources (Brinton, 2020). Readers were affected by the COVID-19 pandemic in a more positive way since they were at home with more time to read. Brinton (2020) noted that the online purchasing power of customers remained strong since they were able to buy the electronic books from anywhere as long as they had the needed resources. Reading and buying habits of the people greatly changed

CHALLENGES OFFERED BY THE COVID-19 PANDEMIC

It is stated that the impact of COVID-19 on bookshops was immediate and dramatic since sales dropped between 75% and 95% during the lockdown period (Federation of European Publishers, 2020; Research and Markets, 2020). Educational publishers were greatly affected by the closure of schools and higher education institutions serve for those offering e-services such as Kindle and Amazon. The challenges that were offered by the COVID-19 pandemic are documented below according to the stakeholders of the book value chain.

CHALLENGES FACED BY PUBLISHERS

The COVID-19 pandemic exacerbated the challenges that were faced by publishers prior to the pandemic period. There was the postponement or cancellations of planned new titles as publishers were faced with liquidity challenges. It was not possible to hold public events during the lockdown era, meaning that book fairs, public readings, festivals and other events that boost the revenue and sales of books could not take place. The cancellation, postponement or moving online of these events affected authors, publishers, and booksellers since book fairs are occasions to exchange rights, showcase new titles and generate high volumes of sales to the public. Therefore, there was the negative impact on sales and revenues. Insufficient financial resources greatly affected the resumption of activities since publishers were depending on government support for salaries leading to partial unemployment support, reducing or stopping publishing activities and laying off staff (Federation of European Publishers, 2020). Some publishers were affected by the unavailability of raw materials such as book papers. This called for more planning and the need for new survival strategies in such a turbulent

176

environment. Conley (2019) pointed out that print book production continued to decline due to the imposed COVID-19 pandemic lockdown.

CHALLENGES FACED BY BOOKSELLERS

Booksellers were greatly affected during the lockdown period, especially those dealing in hard copies only (Bourne, 2020). Those who managed to keep selling books during the lockdown did so by strengthening their presence online (Federation of European Publishers, 2020) or were innovate through the use of other methods such as delivery or pick up at the shop's door (Nawotka, 2020).

CHALLENGES FACED BY LIBRARIES

Libraries are powerful allies of the book chain as they promote reading in society. However, libraries were closed during the lockdown period and in order to address the increasing reading interests, publishers' licenses were made more flexible. Librarians were worried about the safety of the collection, library staff and the patrons. Buying and borrowing of printed copies was suspended leading to low usage statistics of print resources as users resorted to electronic information resources. Institutions were facing budget cuts due to the economic recession that was hit most countries during the pandemic and acquiring electronic resources was a challenge to most libraries. This was worsened by the reluctance of students to pay fees for online education, decreasing enrollments of international students, and questions of whether the libraries or institutions were going to reopen (Guren, McIlroy and Sieck, 2021).

CHALLENGES FACED BY WRITERS

The writers saw the lockdown as a time to work on their manuscripts without much disturbances. Nawotka (2020) indicated that writers now have a lot of time on their hands to write and more manuscripts will be available in publishing houses. However, the major challenge is that there might not be enough publishers or booksellers to absorb all the submissions.

CHALLENGES FACED BY READERS

The readers were also affected by the COVID-19 pandemic and the Global Web Index Coronavirus Research of April 2020 revealed that 33% read more books and listened to more audiobooks worldwide during the lockdown period (Federation of European Publishers, 2020). It is stated that there was an increase in piracy since there was no increase in book sales. This can be attributed to the disruption of retail services as well as the economic difficulties that were faced during the lockdown period (Gupta, 2020). Certain books such as children books and some fiction titles topped the list on usage and became popular during the lockdown (Federation of European Publishers, 2020). However, travel books were wiped out of the market due to travel restrictions that were imposed. The digital divide was also widened by the COVID-19 pandemic whereby those who didn't have the mechanisms of accessing electronic resources were greatly disadvantaged. There was need for internet connectivity and smart devices in order to access the materials. In developing countries, the majority of the population lives in rural areas where there is no electricity and the connection is erratic leading to some challenges in accessing these electronic resources. Owning a smart phone or a laptop is a luxury in the rural areas meaning the rural readership was greatly affected by the impact of COVID-19 pandemic.

African Publishers Network (2020: 4) summarized the impact of the COVID-19 pandemic as the publishing industry as follows:

1. Drastic decline of revenue due to little or no sales of books and decline in remittances;
2. Disruptions in national and global supply chains with a drop in value creation and delays in the shipment of major printing materials, books and other publishing materials;
3. Stoppage of ongoing publishing projects and a reduction in the quantity of published titles due to the attendant disincentives to publish;
4. Slowdown in investments and the potential lay-off of workers if this unfortunate situation persists;
5. Significant job losses for businesses, big and small;
6. Unanticipated increases in health spending and high prices of other goods and services;
7. Higher debt burden on publishers and stakeholders in the publishing industry; and

8.   Potential collapse of publishing firms.

In light of the above, the Chairperson of the Zimbabwe Book Publishers Association in April indicated that there is much scope now more than ever to sale e-books (African Publishers Network, 2020). Although the government did not provide support, there is a mobile operator which started an electronic library where users must buy the e-books.

METHODOLOGY

A structured literature review was done to unpack the opportunities and challenges that have been experienced by the stakeholders in the book industry. The search terms that were used during the search process were terms "COVID-19 AND book industry". Interviews were conducted with 5 librarians, 5 publishers, 5 booksellers, 5 authors and 5 readers to understand how they have been dealing with these various stakeholders during the COVID-19 pandemic era. Personal experiences as an author and a librarian were also used to unpack the opportunities and challenges that were offered by the COVID-19 pandemic in the book industry. Purposive sampling was used to select the population. The data was analysed using content analysis and the results presented according to each stakeholder.

RESULTS

The findings showed that the major opportunities were enjoyed by the authors who got more time to work on their publications during the lockdown period. As an author, I managed to work on my manuscript which I sent for publication during the lockdown period. There was ample time to work on the publication since I was working from home. Responses from the interviewees were:

I did a lot during the lockdown. My book is out but I was forced to postpone the book launch because of circumstances beyond my control. The book fairs and gatherings of more than 30 people were suspended and as a result, the launch would not attract as many readers as I want. I cannot also do an online launch since most of the readers complain about the issue of internet connectivity since they are not able to get the data.

I did the book production and improved my website. I also edited my videos and uploaded them on the website. This was made possible during the lockdown period since I had a lot of time at my disposal to do other duties as I was working from home. I was utilizing the time I spent travelling to and from work to work on my writing projects. I am happy since readers are able to access my work from the website now unlike when I was supposed to send them to their inboxes.

I worked on my manuscript which I submitted to the publisher. However, the publication process was prolonged because of the lockdown. I work well under difficult times. Completing my manuscript was not a challenge since I had ample time to do so. Work was completely suspended due to the covid-19 pandemic imposed lockdown. I thought of making good use of that time to complete my pending project and I managed to do so. I was able to occupy myself productively and I managed to complete my manuscript. The process was delayed by the lockdown since the publication process took more time than expected as it was difficult for some of the publication crew to work from home.

I submitted my manuscript just before the lockdown in the beginning of March 2020. As we were halfway through the publishing process, the publisher informed me that they could not continue because of the uncertainties brought about by the COVID-19 pandemic. The publishing company suspended most of the manuscript although they had worked with the authors and editors throughout the process but had to be told that they are cancelling my contract. It was a painful process but I accepted it and looked for another publisher. Now my book is available as an e-book and I am happy. So I take this as a blessing in disguise since the publisher I got into contact with is equally good and was very receptive to my plea though it took longer for the book to be published since it had to go under peer review again under the new publisher.

During the lockdown period I was neither working from home nor going to work. It was an opportunity for me to finalise my papers for publishing which I gladly did and submitted them for publication. The lockdown period gave me some time to rework on my pending publication jobs and it was good for me as I managed to work on most of the papers I had shelved due to the pressure in the office. Since there was no office work for me during the lockdown period, I had to finalise some of these papers. I managed to do so and in the process, achieved to fully utilize my time at home to do something beneficial.

180

These findings were also pointed out by Nawotka (2020) who stated that authors took the lockdown as an opportune time to work on their manuscripts as they were working from home. However, they faced challenges such as lack of data to connect to the internet and the prolonged publication process which was induced by the lockdown.

IMPACT OF COVID-19 ON PUBLISHERS

Publishers were not certain about the outcome and as a result some book projects which were underway were rejected because of the uncertainties in the publication process. My personal experience with publishers showed that they were not certain about the future and even projects which were near completion were rejected. I was about to submit the first draft of the manuscript after going through the book production process and I received an email stating that the publisher cannot continue due to the uncertainties which were caused by the COVID-19 pandemic. I had to look for another publisher, and luckily I got another good publisher that was interested in my project.

Publishers were forced to open their content to make it accessible free of charge as a way of enhancing access to information in fighting against the effects of the COVID-19 pandemic. One publisher indicated that due to the COVID-19 pandemic, they were forced to discontinue all the operations since there were no financial resources to produce books. Up to now, the organization is still affected and no production is underway. However, some publishers were not greatly affected in terms of the production process as they managed to continue with their operations. The people interviewed indicated that:

At this time I do not have much to say. We paused all publishing operations owing to the loss of income caused by the pandemic. The lockdown period was not good for my business and this time I am counting my losses. I didn't get the money to pay the workers and pay for other services and bills and I am just hoping that the lockdown will be over soon so that we can start operating. We are also looking at other avenues such as digital and online publishing since most readers are utilizing electronic reading materials during this lockdown period. There might be a paradigm shift to the use of electronic information sources since teaching and learning was shifted to online so that the observation of social distance is not compromised in schools.

Yes we continued with our publishing processes and books have been published during the period in question. We didn't face many challenges during this lockdown period because we are able to do most of the publishing activities from home. All the affected individuals were provided with WiFi connectivity and the subscriptions were paid by the company. As a result, this did not burden the employees and they are proving to deliver even by working from home. This might be the new normal although it is a little bit expensive on the part of the organization especially on data charges. Previously, only one subscription was done and employees could access WiFi at work. Now during the lockdown, there is need to subscribe for all critical staff so that work is not affected.

The publication process had been prolonged a bit as key stakeholders are working from different areas and coordination was a problem. Our publishing staff has been working from home and production materials have been available. People were used to working from the office and the channel of communication was easier since the updates and follow ups were usually done using the phone extensions in the office. The new normal caused a big turn of events and people were supposed to work from home. Others did not manage to grasp the concept well as they were used to be in the office and at home they were affected by circumstances beyond their own control. Those who manage to work well from home had to assist those who were facing challenges but the company was not able to assist everyone with data charges to connect to the internet to complete the work flows.

Sales have been low and the main market, the schools have been shut down for the greater part of the year. Since March 2020, there was a closure of almost everything except essential services. Our major client was the higher education institutions and schools which were closed indefinitely since the beginning of the lockdown period. Most public schools were closed and students were not doing anything at home but were just encouraged to continue reading the work they already had. Only group A and private schools shifted teaching and learning to online and they required access to electronic information resources to embed in the online courses. However, since we specialize in print books, our products were not bought during the lockdown period since people were afraid of spreading the virus.

We have used the time to train our personnel and also streamline our operations to enhance efficiencies in our processes. We are also now venturing into

182

digital publishing and making use of digital marketing platforms to market our products. As an organization, we saw the lockdown period as a time to upskill and reskill our employees on publishing as well as to venture on emerging issues in the publishing industry such as digital and online publishing. In order to reach our clients on time, we turned to digital marketing platforms which were not previously utilized by the company such as website, and social media platforms such as Facebook, twitter, LinkedIn among others. We are hoping that after lockdown we will still suit in the publishing industry since the new normal had caused a lot of changes so far.

It can be noted that these findings concur with the views of the Federation of European Publishers (2020) and African Publishers Network (2020) where some publishers failed to produce new books and laid off some workers due to the COVID-19 pandemic. One of the publishers took advantage of the period to offer training and change how it operated to meet the demands of the new normal.

IMPACT OF COVID-19 ON BOOKSELLERS

Booksellers failed to hold book fairs and some events were delayed while some were moved entirely online e.g. The Zimbabwe International Book Fair (ZIBF) failed to take place in August 2020 due to the COVID-19 pandemic. Booksellers closed their shops as they were not regarded as essential services leading to low sales and failure to pay overhead costs such as salaries, rentals and other bills. Booksellers of electronic information resources were keen to showcase their content as they saw the pandemic as an opportunity to increase their sells. People who were interviewed pointed out that:

The closure of bookshops greatly affected us since we did not have money to pay salaries, bills and rentals. This forced us to lay off some of our workers as we were not able to pay them. This was a difficult decision to make since it is still not clear about the outcome of this new normal. Maybe things will normalize or this is how bookstores are now supposed to operate in the changing times. Most of our clients were schools and their closure meant no new purchases. We have stocks of books in the warehouses which we are not able to sell leading to some losses since storage costs should be paid. We just accepted that it's the way it is and hope for a change for the better.

My institution had planned to exhibit and sell our books at the Zimbabwe International Book Fair in August 2020. However, due to the COVID-19 pandemic, the book fair was cancelled and this greatly affected us. We were planning to have a stand during the whole week so as to interact with our clients during the book fair like any other year. These plans were at an advanced stage but we were very disappointed to learn about the indefinite suspension of public gatherings to curb the spread of the COVID-19 pandemic. Since we are not sure of the end of all this, we just work with what is on the ground and wait for the uplifting of the ban of public gatherings.

As booksellers, we also felt the impact of the COVID-19pandemic since most publishers were closed and the supply of print materials to our bookshops was negatively affected. We rely on the books that we get from publishers so that our clients can buy from us. Our plans to stock some titles were affected by the lockdown since publishers are no longer able to supply the print books as per agreed schedule. As booksellers, we don't operate in isolation as we rely on both publishers and readers. Since most of the schools are closed and people are not allowed to get into town, we don't have sales and our revenue inflow was negatively affected. During the first two months, we were also forced to close completely and even if there were some who wanted to buy books, we were not able to provide the service since our offices were locked.

The coming of the covid-19 pandemic has resulted in the premature closure of learning institutions and a disintermediation between learners and educators. As a result, this has ushered us into a full-fledged online, remote and e-learning space giving digital content access platform much popularity as could not have been realised before. We are now assisting those schools that are offering online lessons by providing the much needed electronic information resources for the students to be able to answer their assignments and keep themselves busy at home to avoid stagnation. We were dealing mostly with private schools that had flexible budgets to purchase electronic resources. We tried to sell the idea to public schools but their budgets did not allow them to but electronic information resources.

We used to sell mailnly print books but with the coming of the new normal, we are looking at ways we can strategise to include electronic books as well since users can easily access them. We have been negotiating with suppliers of electronic books to see if we are able to deal with them as a plan B way of operating under the new normal. However, we have to clear the backlog

184

first in warehouses while trying to re-strategise and provide the much needed resource under the new normal.

These findings are in line with what was pointed out by the Federation of European Publishers (2020) about the decline in sales during the lockdown period due to the closure of schools which are the major customers. Bourne (2020) also aired that those booksellers who were dealing with hard copies were greatly affected and the results confirmed this as well. The booksellers who survived were those who were offering innovative ways of serving the clients and this supports the view of Nawotka (2020).

IMPACT OF COVID-19 ON LIBRARIES

Libraries were closed leading to the inaccessibility of print resources and increased use of electronic information resources and remote access to these resources. In order to ensure that users access the information they wanted, librarians vigorously marketed e-resources and provided remote access to these electronic information resources. They also engaged with publishers to open up their content as open access materials. From personal experiences, the library where I work was closed during the lockdown period and library staff was working from home. However, the challenge of data was experienced and most of the services were limited to assistance on the social media platforms or direct calls. Students were encouraged to register for off campus access to ensure that they can access the electronic information resources from wherever they are, as long as they are connected to the internet. The respondents had this to say:

We were instructed to close the library but we were not prepared for closure. There was no activity until we were informed to open. This was hard for us since the students mainly use the physical spaces for reading and accessing other services such as photocopying and printing.

Although we were working from home, we did have data to fully assist the patrons to get the resources they wanted.

Our library was offering off campus to electronic information resources even before the lockdown period. As a result, we continued offering the service when

185

the physical building was closed. However, there was a challenge of some students who kept on requesting for print books which were not accessible.

As the library, we tried to negotiate with publishers to provide open access content to our patrons. We compiled a list of open access materials and provided guidelines on how users can access and use them.

We took advantage of the several social media platforms that are available to market library services.

The Federation of European Publishers (2020) also indicated that most libraries were closed during the lockdown period and those who did not have access to electronic resources were greatly affected.

IMPACT OF COVID-19 ON READERS

Readers took advantage of electronic databases that were available during that time since most of them were not able to pay for the content. Subscriptions were low during this period as readers resorted to the use of open access content more than the print sources. The major challenges realised in this scenario is low bandwidth and internet connectivity issues. Digital online platforms require stable internet connection hence would pose a challenge in areas where the connection is either poor or unstable. On the same note, the data costs also add to the subscription costs which cannot be met by most readers. The respondents pointed out that:

Since my library does not offer off campus access to e-resources, I utilized open access content during the lockdown period. It was difficult since I was used to the print resources.

Accessing information was easy for me as I was using various online platforms to retrieve content from the internet.

I took advantage of the official social media platforms that are used at my institution to get updates on how I can access information resources. Most of the information was accessed online.

186

*I did not have the data to connect to the internet to access the e-resources.
Therefore, I utilized the notes we were given while waiting for the library
to open.*

*The lockdown started when I was in the middle of writing my dissertation.
The library was closed and we didn't have a facility of accessing e-resources
off campus. It was very difficult for me to do literature review during the
lockdown period.*

These findings are in sync with the views of Gupta (2020) and Federation of
European Publishers (2020) who indicated that readers were using e-resources
leading to the increase in usage statistics. However, it should be pointed out
that those who did not have access to the internet and who did not have off
campus accounts were negatively affected since they were not able to get the
information they wanted during the lockdown period.

SOLUTIONS

In light of the challenges and opportunities that were brought about by the
COVID-19 pandemic it can be stated that digital publishing is now the order
of the new normal. Publishers should be innovative and start digital publishing
projects to produce electronic books and journals that can be accessible
anywhere as long as one is connected to the internet. This requires suitable
budget allocations to develop electronic information resources and to acquire
educational resources in electronic format in schools. The budget can also
be used to pay good salaries to workers, and pay bills such as office rentals,
book warehousing costs, electricity, water and other hidden costs. This can
be through support packages from the government to minimize the risks of
losing good publishers and keep the publishing industry operational. The
publishers and booksellers can also take advantage of social media marketing
to reach the clients since almost everyone is now on social media.

RECOMMENDATIONS

The author recommends that publishers' associations can lobby for government
support in terms of financial support, bulk book procurement, purchasing of
e-book licenses, soft loans for publishers, tax relief and enabling policies for the

publishers to remain relevant in the new normal. This is because some writers are resorting to self-publishing although there are some quality assurance issues. There is also need to avail more training on electronic publishing for Zimbabwean publishers so that they are able to use new technologies in the book publishing industry. People can take advantage of the free programmes and handy tools that are available on the internet to learn how to publish in the digital era. Training and exposure to technology is also another factor that needs to be attended to especially for educators who teach production and publishing of information media in higher education institutions. Lack of such in some cases has led to resistance to the adoption of digital technologies since the stakeholders in the book publishing industry would not be able to use the new technologies to suit the new normal environment. Publishers and educators can take advantage of the training programs that were availed by Econet wireless for educators in information communication technologies and related subjects.

AREAS FOR FURTHER RESEARCH

The activities of the book value chain were greatly affected by COVID 19 both negatively and positively. A study can be done on how the various stakeholders worked together to minimize the negative challenges and took advantage of the opportunities. Another area of note is the survival strategies that were put in place by the publishers who used to specialize in the production of print books since sells were greatly affected during the COVID-19 pandemic period.

CONCLUSION

It can be noted that the COVID-19 pandemic changed the book publishing model and the content consumption pattern of the readers. Some book publishers have gone online while some halted the book production process as a result of the COVID-19 pandemic. Some took away the paywall to allow free access to previously paid content. All the stakeholders were affected by the COVID-19 pandemic and some utilized the opportunities offered while working on the challenges.

REFERENCES

African Publishers Network. (2020). *APNET's country report of African publishers in COVID-19 period.* https://african-publishers.net/images/APNET_COUNTRY_REPORT_OF_PUBLISHERS_IN_AFRICA.pdf

Association of American Publishers. (2020). *COVID-19 response: what publishers are doing to help the coronavirus pandemic*. https://publishers.org/aap-news/covid-19-response/

Bourne, M. (2020). Publishing During a Pandemic: the effects of COVID-19 on the business of books. *Poets & Writers Magazine, 48*(4).

Brenton, J. (2020). *The impact of COVID-19 on the UK publishing industry: findings and opportunity. Industry update.* Association of learned and Professional Society Publishers. doi:10.1002/leap.1363

Cader M. (2020). HBG starts limited re-opening, but recommends remote work 'For the Foreseeable Future'. *Publishers Lunch.*

Conley, J. (2019). What are the top strategic issues facing the book value chain? *Business Management*. https://www.piworld.com/post/what-are-the-top-strategic-issues-facing-the-book-value-chain/

Federation of European Publishers. (2020). *Consequences of the COVID-19 crisis on the book market*. https://europeanwriterscouncil.com/fep-report-covid-booksector/

Gupta, D. (2020). *COVID-19: impact on the publishing industry and the new normal*. https://www.nagarro.com/en/blog/publishing-industry-covid19-impact-new-normal

Guren, C., McIlroy, T., & Sieck, S. (2021). COVID-19 and book publishing: Impacts and insights for 2021. *Publishing Research Quarterly*, *37*(1), 1–14. doi:10.100712109-021-09791-z

Ho, H., Wang, L., & Cheng, H. (2011). Authors, Publishers, and readers in publishing supply chain: The contingency model of digital contents production, distribution, and consumption. *Systems Engeneering Procedia*, *2*, 398–405. doi:10.1016/j.sepro.2011.10.053

Kelly, K. J. (2020). Book publishers worry that Barnes & Noble hack will spur holiday snafus. *New York Post*. https://nypost.com/2020/11/24/barnes-noble-survives-hack-attack-unscathed-before-holidays/

Mashava, S. 2017. New opportunity for Zimbabwean Literature. *The Herald*. https://www.herald.co.zw/new-opportunity-for-zimbabwean-literature/

Nawotka, E. D. (2020). *How the coronavirus will change book publishing now and forever.* https://www.latimes.com/entertainment-arts/books/story/2020-03-25/how-the-coronavirus-will-change-book-publishing-now-and-forever

Publishers Association. (2020). *Publishing industry response to COVID-19.* https://www.publishers.org.uk/

Research and Markets. (2020). *Book Publishers Industry to Decline from $92.8 Billion in 2019 to $85.9 Billion in 2020 - Trends & Implications of COVID-19.* https://www.researchandmarkets.com/reports/5022380/book-publishers-global-market-report-2020

WIPO. (n.d.). Intellectual property issues in the publishing industry: The book publishing value chain. *WIPO-FIP Copyright Workshop*. http://193.5.93.81/edocs/mdocs/mdocs/en/wipo_ip_wk_del_07/wipo_ip_wk_del_07_www_215582.pdf

KEY TERMS AND DEFINITIONS

Book Production: It is the process required to turn a raw manuscript into a final printed product or e-book.

Book Value Chain: It is model that is used to examine the activities involved in taking a book from idea to a sellable item.

Bookseller: A person responsible for selling books and can be an owner or manager of a bookshop.

E-Books: It is a book in electronic format that can be read using a computer or a handheld device.

New Normal: This is a situation that is different from previous experiences and is expected to be the usual.

Open Access: It is a set of principles where the research output is distributed online without any access barriers.

Paywall: Restricting access to users who have paid or subscribed to that particular site.

Publisher: It is a service provider that prepares and issues information resources for sale.

Publishing Industry: Those responsible for the production and distribution of books, magazines, newspapers etc. to make the information available to the public.

Publishing Process: The process where authors take their ideas and put them into viewable forms.

Reader: A person who reads or is fond of reading.

Self-Publishing: It is the act of publishing information resources without the use of a publishing house or company.

Chapter 10

Myths, Fake News, Tirades, and Diatribes and the COVID–19 Pandemic:
What Can Libraries Do?

ABSTRACT

The outbreak of the COVID-19 pandemic and infodemic has seen a proliferation of myths, fake news, tirades, and diatribes, thus complicating and undermining the global efforts to counter the COVID-19 pandemic and infodemic. This chapter seeks to explore how the COVID-19 pandemic and infodemic can be confronted using a multi-pronged approach that includes library and information science practitioners educators and other key stakeholders. The researcher uses a qualitative research design based on literature review of primary and secondary sources in order to answer the key research questions. The chapter seeks to provoke discourse, generate a corpus knowledge, and stimulate further research on issues that are overlooked in a number of studies on the COVID-19 pandemic within the information science matrix.

INTRODUCTION

Globally, the COVID-19 pandemic and infodemic continues to inflict havoc on the socio-economic psychological lives of many nations despite the multi-pronged fight waged against it by governments, regional bodies and the

international community under the aegis of the World Health Organisation (WHO). Sahoo, Padhy, Ipsita, Mehra, & Grover (2020) contended that despite creating awareness and providing adequate information to the general public through multimedia technologies and distributing pamphlets/signboards at public places about infection control measures and mode of spread of the infection, still, there are a large number of myths associated with the spread and cure/treatment of COVID-19 infection in the society. According to the aforementioned authors, these myths are traveling from one person to the other, through social media platforms. Sahoo, Padhy, Ipsita, Mehra, & Grover (2020) argue that myths can be very hazardous, as these can lead to over- complacency and following some of these myths can lead to other health dangers. The efforts to mitigate and prevent the COVID-19 pandemic and infodemic is being compounded by the explosion of myths, fake news, tirades and diatribes between the global superpowers China and the United States of America (USA). There is need for collaboration between the big superpowers in science and technology research in order to generate solutions to counter the pandemic.

Statement of the Problem

The fight against COVID-19 pandemic myths, misinformation and disinformation needs to be fought through a multi-pronged approach and access to hygienic information is one of such frontiers that should be conquered to ensure an informed citizenry. The spread of COVID-19 pandemic myths, fake news, tirades and diatribes complicates global efforts to mitigate and prevent the virus. An informed and metaliterate citizenry is an asset to any nation that is grappling with a pandemic of a biblical proportions like the COVID-19 pandemic and infodemic. The COVID-19 pandemic situation throughout the world is characterised by tragic scenario of uncertainty, anxiety and fear as nations strengthen their resolve as a collective to fight the virus using a systematically coordinated strategy guided by WHO guidelines. If the aforementioned proceeds without a global coordinated approach, the fight against COVID-19 pandemic disinformation and misinformation will undermine the progress that nations have made since the outbreak of virus in 2019. There is need to conduct research on the COVID-19 pandemic misinformation and disinformation in order to generate knowledge to support policy makers and researchers to realise praxis-oriented solutions for the

benefit of humanity. Empowering citizens with metaliteracy skills is key to building a mass of critical thinkers who will ultimately become the vanguard in the war against the COVID-19 pandemic and infodemic.

RESEARCH QUESTIONS

The study is Guided by the Following Research Questions;

1. What are COVID-19 pandemic myths?
2. What is fake news in the wake of COVID-19 pandemic and infodemic?
3. What is the response of governments to the COVID-19 pandemic and infodemic?
4. How do COVID-19 pandemic tirades and tirades affecting undermine progress in combatting the virus?
5. What is the role of libraries in fighting the COVID-19 pandemic and infodemic?

Research Methodology

The researcher adapted a qualitative research approach in order to unpack the phenomenon of COVID-19 pandemic information disorder. The researcher used personal experiences and independent opinion as an information science educator with notable knowledge on the COVID -19 pandemic and infodemic. Reflecting critically on the impact of the pandemic. The article follows a logical flow and is meant to provoke discourse and further research on the COVID-19 pandemic and infodemic. Conceptual articles explore epistemological questions that cannot be solved by factual information. Gilson, & Goldberg, (2015) argued that in a conceptual paper the responsibility is on developing logical and complete arguments for associations rather than testing them empirically. The research study is based on literature review of primary and secondary sources of information relating to the COVID-19 pandemic and infodemic.

COVID 19 Pandemic and Myths

Sahoo et al (2020) described myth as general folklore genre consisting of narratives/stories that play a fundamental role in human beings' everyday

lives. According to the authors myths are often endorsed by leaders/rulers/ religious preachers and explain to a great extent the functioning of a society and shape the beliefs of people. The Centre for Disease and Control (CDC), (2018) contended that, some of the common infections, which are have been associated with myths, include, but not limited to, HIV/AIDS Leprosy, Tuberculosis, and flue.

Sahoo et al (2020) many myths have been related to other infections, for example, leprosy, tuberculosis, and influenza, but with time and evidence-based approaches, these have proved to be wrong. According to the authors the current COVID-19 pandemic and its uncertainty has given rise to various myths of which some are leading to widespread stigma in society and these myths have the potential of making people over-complacent and resultantly more at risk of developing the infection.

Abbas, Mangrio, & Kumar, (2021) opined that the myths, mistrust, and conspiracies about the COVID-19 vaccine's safety and efficacy are present among conservative societies. According to the authors, it's vital for policymakers and the government to educate the people to minimize vaccine hesitancy and avoid the tendency of retrogressive nanny-statism. Abbas, Mangrio, & Kumar, (2021) urged public health experts and policymakers to commence awareness campaigns using multimedia technologies in order to crash myths, misinformation and disinformation that leads to vaccine indecision. UNESCO (2018) described misinformation as false information that is communicated without deliberate malice, while disinformation refers to false information that is communicated with the intent to deceive. These messages are created for varied reasons including attention seeking behaviour and conspiracist ideation (Wang, McKee, Torbica & Stuckler, 2019). O'Connor & Murphy (2020) argued that evidence confirmed that healthcare professionals can halt the spread of false information by disproving misleading health information on social media and by providing apt sources to accompany their refutation. However, the battle against COVID-19 pandemic and misinformation requires the inputs of all stakeholders including government, industry, the academia, health professionals and citizens.

Ryder (2020) and Ahinkorah, Ameyaw, Hagan Jr, Seidu, & Schack (2020) stated that as the COVID -19 pandemic and infodemic rages on, Africa has not been spared from the viralisation of misinformation and disinformation as evidenced by a growing culture of misconceptions. The authors cited such misconceptions that include the following:

1. The geographical conditions associated with tropical temperatures prevent the causative organisms of the virus from blossoming; and
2. Africans are endowed with robust immune systems to fight the virus.

Ahinkorah et al (2020) argued that the sudden rise of the pandemic across the continent debunked these earlier inaccurate perceptions highlighted above. Due to the wave of fear, worry, and panic about local transmissions and multiple infections among the populace, several people are currently spreading a wide range of diverse misinformation through the internet. The vectors of misinformation now include opinion leaders, political figures, ordinary individuals, bogus scientists, and social commentators through unsubstantiated malicious information or fake news. The widespread misguided COVID-19 related misinformation can spread the disease quickly and can cause xenophobia among racially and nationally unstable communities where social cohesion is weak (Mejova and Kalimeri, 2020; Shimizu, 2020; Thomas, 2020). The fear, worry, stigma, and other falsehoods about COVID-19 might lead to adverse impacts on disease control since prior SARS and Ebola outbreaks are clear examples (Maunder et al., 2003; Person et al., 2004; Cheung, 2015). Therefore, understanding the various forms of misinformation about COVID-19 and the threat it poses to the general public could be essential for governments, public health officials as well as the media to design effective information campaigns and other pragmatic interventions. Strategies to circumvent the sharing of fake and misleading COVID-19 information are highlighted in this mini review. Ahinkorah et al (2020) contended that the COVID-19 misinformation and rumours are also camouflaging other credible healthy behaviours like hand washing, social distancing and other personal hygienic practices thus increasing the spread of the virus.

Khalid, Yousaf, Tu-Allah Khan, Shakoori, Munir, & Shakoori, (2020) cited examples of myths about the COVID-19 pandemic, namely; the disease only affects the aged, only the Chinese are susceptible, wearing mask will protect you, getting or receiving packages from China will make you sick and pets can transfer the virus among others. Wang, Li, Yang, Huang, Zhang, Guo, Luo, Miller, Zhu, Chmura, Hagan, Zhou, Zhang, Wang, Daszak, and Shi, (2018) conducted a study that established that there were more deaths among elderly people than youngsters. Wang et al (2020) further confirmed that the first deaths commonly occurred among individuals with old ages. The wearing of masks was a contentious issue when the COVID -19 pandemic started. The argument in support of the wearing of masks was premised on the notion that COVID-19 spreads through aerosolized droplets (Ng et al., 2020) and the

use of N95 mask protected health workers dealing with COVID-19 patients from being infected (Wang et al., 2020b).

During the early stages of the COVID-19 outbreak, there was a myth that only Chinese people are susceptible to its infection. However, this viral infection has spread and causing deaths to almost all the continents. The wearing of masks has been recommended by scientists since COVID-19 spreads through aerosolized droplets discharged during coughing or sneezing of infected person (Ng, Poon, Kiat Puar, Shan Quah, Loh, Wong, Tan, and Raghuram, 2020). According to study, the use of N95 mask protected the health workers dealing with COVID-19 patients from getting the infection (Wang, Pan, and Cheng, 2020).

The other contentious myths were that pets could transfer virus (Khalid, Yousaf, Tu-Allah Khan, Shakoori, Munir, & Shakoori, (2020). According to the aforementioned authors further scientific studies confirmed that the COVID 19 replicated poorly in pigs, dogs, ducks, and chickens, but efficiently in ferrets and cats. The virus transmitted to cats by respiratory droplets (Shi et al., 2020). However, Almendos (2020) argued that there is no concrete evidence that cats or dogs can be sickened due to coronavirus or transmit it to humans. Packages sent from China were viewed as sources of infection but however, the (CDC, 2020) argued that infection would only occur if only those packages are contaminated with COVID-19 on their surfaces. Although this is not the main source of virus transmission, but chances are still here (CDC, 2020). Mian and Khan (2020) noted that the COVID-19 pandemic myths in circulation were not backed by scientific evidence, for example, the use of home treatments as a way to prevent the infection.

Dutta, Acharya, Shukla, & Acharya (2020) argued that while there is no complete knowledge about the COVID -19 pandemic a myriad of myths and rumours continued to circulate amongst the general populace. According to the authors, unknown facts and myths were much more dangerous and could cause more harm to the society than the virus itself. The authors recommended information hygienic practices as a strategy to counter false information about the spread of the COVID-19 pandemic and the dangers it would inflict on people. This study selected myths cited by (Dutta, Acharya, Shukla, & Acharya, 2020) because of their universal applicability to countries affected by the pandemic. Dutta, Acharya, Shukla, & Acharya, (2020) highlighted the myths related to the COVID -19 pandemic as illustrated in Table 1 below.

Dutta, Acharya, Shukla, & Acharya (2020) conducted a study on COVID-19 pandemic myths with the intention to demystify and expose misconceptions. While the study was conducted in India, the researcher found it worthwhile

Table 1. Selected examples of myths surrounding the COVID-19 pandemic

Myth Code	Myth
M, 1	"Exposing yourself to the sun or to temperatures higher than 25C degrees prevents the coronavirus disease (COVID-19)"
M, 2	"People cannot completely recover from the disease after getting affected by Covid-19".
M, 3	"Being able to hold your breath for 10 seconds or more without coughing or feeling discomfort means you are free from the coronavirus disease (COVID-19) or any other lung disease"
M, 4	" Religious chants can kill the virus"
M, 5	"Drinking alcohol protects you against COVID19 and is not dangerous".
M, 6	"If I am young and healthy, I don"t need to follow precautionary steps or physical distancing"
M, 6	"The new coronavirus CAN be transmitted through mosquito bites".
M, 6	"Exposing yourself to the sun or to temperatures higher than 25C degrees prevents the coronavirus disease (COVID-19)"

to highlight key issues arising from the study. The researcher selected those myths that are topical and have a universal appeal from the study by Dutta, Acharya, Shukla, & Acharya (2020). This current study recoded the myths since not all have a universal appeal with regards to the research study because of cultural differences

Al-Kuraishy, (2021) noted that in Iraq, magicians and charlatans, as well as herbalists, contributed to the anti-Covid19 medications crusade and convinced many people that the peganum seeds, garlic and onions have an important role in eliminating this epidemic. These hyped anti-COVID-19 pandemic sentiments saw many people buying these plants and herbs, hoping to prevent infections. This scenario is also common among African, Latin American , Pacific and Caribbean countries whereby indigenous ways of dealing with pandemics are stronger.

WHO (2021) refuted many unscientifically proven myths surrounding the COVID-19 pandemic. The researcher selected a few examples since some have been covered by other authors such as (Dutta, Acharya, Shukla, & Acharya,2020).

Yamin, (2020) cited the following myths as practices or acts that do not prevent COVID-19.

1. Exposure to temperatures more than 25 degrees Celsius
2. Hot and humid climates
3. Consumption of alcohol
4. Cold weather and snow

5. Hand dryers
6. Spraying alcohol or chlorine all over the body
7. Vaccines used for Pneumonia
8. Regularly rinsing your nose with saline
9. Antibiotics
10. Specific medicines

Yamin (2020) argued that there was no scientific evidence that eating garlic prevents COVID-19 pandemic although garlic even though it is healthy for the body. The author further stated that those that were susceptible to the risk of infection included the elderly, people with compromised immune systems and people with chronic health conditions. Dutta, Acharya, Shukla, & Acharya, (2020) noted that these myths continue to circulate and those less informed tend to believe such things. The author warned people about the dangers of circulating rumours and recommended cooperation between citizens, the government and medical officials.

COVID-19 Pandemic, Fake News, Disinformation and Misinformation

Alcott and Gentzkow (2017, 213) described fake news as "news articles that are intentionally and verifiably false, and could mislead readers." This general definition ignores other forms of misleading information, such as mistakes by journalists or politicians, rumours or conspiracies and other forms of information disorder (Quandt et al, 2019). On the academic side fake news is perceived as part of the macro-issue of misinformation online (Wardle & Derakhshan, 2017), or as "a new form of political misinformation … in journalistic accounts" (Guess, Nyhan, & Reifler, 2018, 1–2). The above definition by is based on a study focusing fake news during the 2016 USA Presidential elections. Lim (2020, 2-3) defined fake news as "intentionally misleading and biased representational information for the benefit of the message sender, which contains false information, with or without a blend of one or more components of omitted important information, a decontextualized content, misleading headlines or clickbait". Wardle & Derakhshan, (2017) highlighted the typology of mis- and disinformation using seven distinct types on a scale of intended deceit, for example, satire over misleading headlines, misleading content, and false contextual information to imposter content (with faked source information), manipulated content, and fully fabricated content.

Gelfert, A. (2018) argued that political events with reference to the controversially close Brexit referendum in the United Kingdom (U.K) and the narrow win of Donald Trump in the U.S. presidential election of 2016 led to a wave of interest in the phenomenon of "fake news", which is widely believed to have played a significant role in shaping the outcome of both political contests. Burkhardt, (2017) traced the genesis of fake news to the era prior to John Guttenberg's (1400-1468) invention of the printing press. According to the author rumours and false stories have probably been around since time immemorial as people coalesced into social groups where power and social control was an issue of concern. Burkhardt, (2017) contends that fake news was prevalent during the significant historical epochs, namely, the pre and post -printing era, age of mass media and the age of the weird, wired and networked internet. According to the author those who controlled and manipulated knowledge, namely the privileged aristocracy used information as a source of power and during the post -printing era from 1450 onwards, literacy spread resulting in the proliferation of canards or rumours and publishing industries and the genesis of the age of enlightenment culminating in the birth of radical ideas that questioned the monarchical rule and advocated for republicanism. The birth of the internet in the late twentieth century marked the rise of digital technology as a vector for spreading fake news (Burkhardt, 2017).

Zhang, & Ghorbani, (2020) in concurrence with Burkhardt, (2017) argued the proliferation of the World Wide Web (WWW) after the mid-1990s significantly advanced the way that people communicate with each other. The aforementioned authors cited social media as platforms that enabled users to share real-time information irrespective of time and space. Shao, Ciampaglia, Flammini, & Menczer, (2016, April) argued that social media was popular among users because of its characteristics relating to ease-of-use, low cost, and interactive nature, Social media has become the major platform for online social interaction and information transmission.

Zhang, & Ghorbani, (2020) argued that the creator/vector of the fake news can be either real human beings or non-humans. According to the authors, the non-humans included social bots and cyborgs with the former referring to computer algorithms that display human-like behaviour and automatically interact with humans on social media while the latter refers an organism with both biological and technological components. Zhang, & Ghorbani, (2020) further noted that social bots and cyborgs were only vectors of fake news on social media because automated accounts were programmed to spread false messages by humans.

van der Linden, Roozenbeek, & Compton, (2020) cited the proliferation of misinformation on social media, fluctuating from the peddling of fake "cures," such as gargling with lemon or salt water and injecting yourself with bleach (World Health Organization, 2020), to false conspiracy theories that the virus was bioengineered in an experimental laboratory in Wuhan (Andersen et al., 2020; Cohen, 2020), or that the 5G cellular network is causing or exacerbating symptoms of COVID-19 (BBC News, 2020). Cooke (2018) shared the same views with van der Linden, Roozenbeek, & Compton, (2020) that fake news remained a serious threat to information ecosystems, since truth becomes devoid of authority, expertise or real facts, but subjected to multiple misleading and contradictory interpretations, perceptions, emotions and sentiments for nefarious ends.

Quandt, Frischlich, Boberg, & Schatto-Eckrodt, (2019) stated that the concept of "Fake news" became popularized and politicized during the 2016 United States of America (USA) elections. Antedating these elections, fake news as an expression primarily symbolized erroneous news pieces that were often intentionally fabricated and was used as a more specific term for political sarcasm in the form of theatrical news shows. However, the inflationary use of the term since 2016 transformed its meaning to mean fabricated news circulated through social media and also as a polemical umbrella term that undermines the heritage news media Quandt, Frischlich, Boberg, & Schatto-Eckrodt, (2019). Cooper, (2017) confirmed that "fake news" was named the "Word of the Year" by the Collins Dictionary even though the term consists of two words.

Zhang, & Ghorbani, (2020) stated that the fundamental characteristics of fake news related to its volume, variety and velocity. With regards to volume of fake news the internet enabled anyone to produce fake news on the Internet (Ahmed, 2017), while the variety relates to the typology of fake news, for example, rumours, satire news, and misinformation and the velocity of fake news is short lived .

Governments Response to Fake News

Al-Zaman, (2021) the use of effective fake news prevention initiatives, such as bills, laws, and punishments, are a common phenomenon throughout the world. Funke, and Flamini (2021) fact-checking guide which reflects the initiatives by governments throughout the globe in the fight against fake news, for example, the use of bills, law enforcement and punishments. Globally,

governments have responded to the misinformation deluge by implementing measures that mirrored the heightened importance of combating fake news, for example, criminalizing malicious coronavirus falsehood (Hungary, South Africa), establishing special units to combat disinformation (European Union, United Kingdom) and providing guidance to social media companies on taking down antagonistic pandemic content (India) (Radu, 2020). Governments in Africa have laws in place that are meant to deal with spector of misinformation, for example, South Africa's Disaster Management Act 2002, section 11(5) criminalised the act of publishing statements information through any medium that with the intention to deceive the public with reference to the COVID-19 pandemic and national measures to address the virus (Radu, 2020). On a similar note, the government of Botswana promulgated the Statutory Instrument No. 61 of 2020 Emergency Powers Act (cap. 22:04) Emergency Powers (covid-19) Regulations, 2020 which criminalised the relaying and publishing of any information to the public about COVID-19 from a source other than the Director of Health Services, and the WHO. Zimbabwe's constitutional Statutory Instrument (SI) 83 of 2020 criminalises the publication and communication of fake news relating to the COVID-19 pandemic (Machivenyika, 2020). It should be noted that governments have not only enacted laws to mitigate and prevent the COVID-19 pandemic but they also been providing awareness to raise the awareness of citizens on the dangers of the virus and the benefits of respecting the laws meant for national good.

Radu (2020) bemoaned that the countless COVID-19 pandemic restrictions imposed on freedom of expression in democratic countries since such measures often results in excessive sanctions and deliberate restrictions directly affecting the role of the media as a watchdog. The author questioned the idea that emergency measures need to come at the expense of democratic guarantees and freedoms. The other measures taken by governments include partnering WHO through public campaigns using hashtags, print, electronic and social media to counter misinformation and promote public health advice (Abrusci, Dubberley, & McGregor, 2020).

Thomson, & Ip (2020) hinted that the COVID-19 pandemic has sparked authoritarian political behaviour worldwide, not merely in regimes that are disciplinarian and in the established liberal democracies with robust constitutional protections of fundamental rights. According to the authors, governments have used the COVID-19 pandemic as an opportunity to enforce excessive and disproportionate emergency measures thus stifling the essence of democracy.

Kavanagh and Singh (2020) noted that while social scientists concurred with caution that democracy is beneficial for public health. However, the pandemic continued to generate levitating imperative questions about the aforementioned argument as high-profile cases confirmed that authoritarian countries were getting praise for their response while the leading democracies have arduously writhed to respond. Cepaluni, Dorsch, and Branyiczki (2020) noted that there was growing concern that those countries that have successfully responded to the COVID-19 pandemic and those still struggling represented bad news about the value, and future, of democratic governance (Diamond 2020). Initial studies have already been conducted showing a correlation between democracy and worse outbreaks as well as less effective policy responses (Cepaluni, Dorsch, and Branyiczki 2020). Kavanagh and Singh (2020) argued that the imposition of unequal, inflexible emergency responses could spur a reagent for a renewed authoritarianization in both democracies and non-democracies resulting in a constitutional pandemic of devastating magnitude. This scenario is a manifestation of the "corocracy" that undermines democracy.

Social media platforms have revised their content moderation policies to more effectively factcheck and/or remove Covid misinformation, with an increased reliance on automated systems (Abrusci, Dubberley, & McGregor, (2020)

COVID-19 Pandemic, Accusations and Counter -Accusations

The COVID-19 outbreak has fuelled tension between the U.S. and China. Existing literature in international relations rarely focuses on virus outbreaks as factors affecting international relations between superpower countries, nor does research examine an outbreak's potential influence on the public's opinion about their country's foreign policy. To bridge this research gap, this study explores the extent to which the American public may be prone to favour policies that "punish" China via existing U.S.-China disputes, such as the South China Sea dispute and the U.S.-China trade war.

Hein (2020) stated that "new Cold War" as the loaded term had already been floating in the air for some time, but on May 24 it was first used publicly by Chinese Foreign Minister Wang Yi at the recent National People's Congress in Beijing whereby China reacted to Washington's accusations that China was responsible for the global spread of the coronavirus pandemic.

deLisle, (2021) stated that common reproaches over COVID-19 honed the ideational conflict that has become an increasingly central feature of USA-China relations. The USA government vociferously blamed the People's Republic of China (PRC) for the novel coronavirus's calamitous effects on a global scale with the then President Donald Trump infamously referring to COVID-19 "the China virus" and the "kung flu." According to the author the U.S.'s COVID-19 problems were attributed to China's early withholding of information, Sino manipulation of the World Health Organization (WHO), and a resulting delay in responding to the pandemic.

Cheng (2020) highlighted how China became aggressive in countering a narrative pushed forth with no evidence by senior USA that the virus originated in Wuhan. The author bemoaned the failure by the two global powers to collaborate on a global health crisis and that this conflict of words set the two countries further apart. Fisher, (2020) noted that the Chinese government refuted the allegation by the USA government officials that the virus originated in a laboratory. China labelled this as highest level of dangerous disinformation meant to mislead the international community (Fisher, 2020).

Lin, (2021) argued that there was no direct evidence that the COVID -19 pandemic was intentionally started by the Chinese government, and that there was a heightened perception in the USA that the Chinese government's actions during the pandemic threatened American lives and economic wellbeing. The USA government declared that it would hold China accountable for the tragedy it had caused to the world (Lin, 2020). Lin (2020) concluded that the outbreak of COVID-19 pandemic fueled tension between the USA and China. The author argued that the available literature in international relations seldom focuses on virus outbreaks as a factor affecting the dynamic between superpower nations.

Several bills in Congress called for imposing legal liability on China for COVID-related harms in the United States, often using ideologically charged language (U.S. Congress, 2020). Zheng (2020) argued that the Sino statements on the response to the COVID -19 pandemic hyped the efficacy of China's moves as compared to the USA in containing the outbreak with aggressive lockdowns, contact tracing, monitoring, and deployment of medical resources. Zeng's (2020) sentiments reflected Beijing as cooperating with the WHO and following international rules (Jin Xinping, 2020). Sharma, (15 April 2020) contended that, even though the exact origin of the COVID-19 pandemic is still unclear, one of the leading hypotheses is that it began following an interaction between a human and an animal at the wet market in Wuhan.

According to the author the virus did not originate from the wet market but from outside Wuhan, outside China and even in the United States.

Christensen, (2020) viewed COVID-19 as a potential tragedy in USA-China relations and a potential tragedy for the universe. According to the author the interactions between the two sides, and with other actors, such as the WHO have so far misspent historic opportunities for cooperation to tackle a common threat. Christensen, (2020, 2) paused the following question "If great powers, including strategic competitors like the United States and China, cannot cooperate on countering this threat to humanity, then how can we expect to cooperate on other issues?"

Christensen, (2020) was of the conviction that all of the protagonists in the COVID-19 tragedy hoped for the virus to go away, but instead they chose to protect their own reputations by placing hope squarely on others in ways that make much needed international cooperation to combat the virus more difficult

The proliferation of vituperative fake news questions the readiness of librarians in interceding in patrons' cognitive sphere to address the challenge (Greifeneder, Jaffé, Newman, & Schwarz, 2021). The authors recommended the need to find novel interdisciplinary linkages between Psychology, Media, and Library and Information Science studies (LIS) as a way to address the challenge. De Paor & Heravi, (2020, 5) in the same vein as (Greifeneder, Jaffé, Newman, & Schwarz, 2021) raised concern over whether "information professionals and librarians have positioned themselves at the front lines of the information war".

Rules, (2018) stated the USA and China control the global scientific system since they account for almost half of the world's research and development expenditures. It is imperative that cooperation and collaboration should outweigh political rivalry because the fight against the COVID-19 is for the good of humanity.

COVID-19 Pandemic and Infodemic:
What can Libraries do?

Libraries in the current COVID-19 pandemic are swarmed by the spectacle of heightened disintermediation arising from the avalanche of information from a variety of sources thus undermining their authority and questioning their worthiness in an apparently free digital world (Revez, & Corujo, 2021).

The COVID-19 pandemic forced libraries to either close or go digital. With reference to the developing world, the COVID-19 pandemic exposed the lacunae between libraries that are technologically resource endowed and those that are at a disadvantage because of lack of technology (Chisita, 2020). Tammaro (2020) cites the digital divide as an inhibitor to guaranteed democratic access to library services due to the poor digital infrastructure. However, the lack of ability to maintain connection and interact with communities has been evident through time and space. Lessons drawn from the Italian experience during the COVID -19 pandemic confirms that work culture was adjusted to suit the lockdown restrictions (Caselli, 2020a). Tammaro (2020) argues that the work at home of the staff (smart working or agile working) has been very effective, and would probably remain even after the reopening of the libraries. This scenario has become the new normal for librarians across the globe. However, working from home has technological side effects because of the excess amount spent online staff develop digital fatigue. The other lesson learnt from how Italian libraries responded to the pandemic relates to intellectual property rights with respect to copyright since it was impossible to digitize the textbooks, even asking the publishers for authorization without any positive feedback (Tammaro, 2020). The author recommended the adaptation of digital paradigms in order to enhance library services in an increasingly and continuously evolving networked world.

Sharma, Raje, Savant, & Savant, (2021) argued that with reference to health-related issues, the highly trustworthy option public opt for included the scientists and health care providers, which unquestionably makes it essential that these groups are well informed with authentic information. The aforementioned authors recommended synergy between health care providers and other key partners including librarians by linking their home pages to libraries for the benefit of leveraging access by the public and clinical educators. This recommendation places librarians as the vanguard in the war against coroinfodeluge.

Durodolu, Ibenne, & Dube, (2021) noted that library and educational institutions have highlighted various information literacy strategies to develop more information literate society, where citizens will have the capacity to evaluate information and identify fake news. Mackey, (2020) highlighted the need to adapt metaliteracies as a pedagogical framework to engage students in the evaluation, production, and sharing of truthful and trusted information. While, Durodolu, Ibenne, & Dube, (2021) focussed on information literacy as a panacea for overcoming the COVID-19 infodemic, Mackey (2020) proposed a model based on metaliteracy in order to weaponise learners to

envision themselves in active roles for producing meaningful content and to effectively participate online. This implies that librarians can embed or infuse metaliteracies in their pedagogical information/digital literacy programmes to inculcate a netiquetical culture of responsible or ethical use, production and critical analysis of online information. The ACRL Framework for Information Literacy for Higher Education (2016) envisages the learner as an ethical producer of information in participatory learning communities.

Jacobson, & Mackey, (2013) endorsed the metaliteracy as a model that provides a amalgamating and all-encompassing hypothesis for related literacy types. The model acknowledges multiple literacies as parallel concerns because 21st century learning environments are social, multimodal, interactive, and open, necessitating the need for an incorporation of multi-media competencies. Librarians can also undertake information repackaging to broaden access to information as highlighted in the next paragraph.

Dongardive, (2013) defined information repackaging as a process involving collection of information from numerous sources and then processing the information and making more effective and attractive package of information and disseminate or serve according to demand. The repackaging of information is a panacea to manage the Coroinfodeluge and the competition for fast, reliable, convenient and efficient information support for decision making. The process of information consolidation of COVID-19 pandemic information will help to provide specific user groups with reliable and relevant information.

FUTURE RESEARCH DIRECTIONS

The chapter X-rayed how myths, fake news, tirades and diatribes have characterised the COVID-19 pandemic and infodemic. It has also accentuated the role of libraries I the drive to mitigate the COVID-19 pandemic and infodemic. It has explored how the COVID-19 pandemic and infodemic has been compounded by the proliferation of myths, fake news, accusations and counter accusations between nations. The chapter extolls the benefits of global cooperation among all stakeholders as the way forward in saving humanity from the pandemic. It also recommends cooperation and collaboration between health librarians and other librarians including public, academic, research and school libraries in attending to information hygienic challenges to overcome the infodemic. Further research directions should focus on debunking COVID-19 myths and fake news. The role of libraries in countering fake news through fact-checking and empowering users with

metaliteracy knowledge and skills is necessary in the midst of rising volumes of untrustworthy sources of information on the internet. Such a pedagogy will weaponise users to navigate the internet with caution.

CONCLUSION

The COVID-19 pandemic should be viewed as an opportunity for a fundamental rethinking and restrategizing concerted efforts that are inclusive in countering myths, fake news, tirades and diatribes than undermine the search for lasting solutions to save humanity. Libraries by virtue of their knowledge and skills fit in well in the ark of those seeking solutions to overcome the dangerous COVID-19 pandemic and infodemic. Their mental eagerness and long-standing tradition as the pioneers and vanguard of hygienic information practices should stand up and be counted in the wake of the COVID -19 pandemic and its variants. Libraries have a critical role to play in managing the COVID-19 pandemic and infodemic through their knowledge and skills to provide reliable information to users and promoting information hygienic practices that will salvage humanity I an era of information disorder.

REFERENCES

Abbas, Q., Mangrio, F., & Kumar, S. (2021). Myths, beliefs, and conspiracies about COVID-19 Vaccines in Sindh, Pakistan: An online cross-sectional survey. Authorea Preprints. doi:10.22541/au.161519250.03425961/v1

Abrusci, E., Dubberley, S., & McGregor, L. (2020). *An 'Infodemic 'in the Pandemic: Human Rights and Covid-19 Misinformation*. http://repository. essex.ac.uk/28053/1/036.pdf

ACRL. (2016). *Framework for Information Literacy for Higher Education*. https://www.ala.org/acrl/standards/ilframework

Ahinkorah, B. O., Ameyaw, E. K., Hagan, J. E. Jr, Seidu, A. A., & Schack, T. (2020). Rising above misinformation or fake news in Africa: Another strategy to control COVID-19 spread. *Frontiers in Communication*, *5*, 45. doi:10.3389/fcomm.2020.00045

Al-Kuraishy, H. M. (2021). Witchcraft and Myths about Covid-19 in Iraq. *Journal of Conventional Knowledge and Holistic Health*, *5*(1).

208

Allcott, H., & Gentzkow, M. (2017). *Social media and fake news in the 2016 election* (No. w23089). National Bureau of Economic Research. https://www.nber.org/system/files/working_papers/w23089/w23089.pdf

Burkhardt, J. M. (2017). History of fake news. *Library Technology Reports*, *53*(8), 5–9.

Caselli, D. (2020a, March 1). Bibliotecari al tempo del Coronavirus, *Dispensatrice di storie*. https://ladispensatricedistorie.blogspot.com/2020/03/i-bibliotecari-al-tempo-del-coronavirus.html?spref=fb&fbclid=IwAR2gXm4_jBE9QJldb2P40v7RfSAGFbdfs7SR737Loa7mxvAEKKCuXUc6ML0

Caselli, D. (2020b). Bibliotecari in quarantena. *Bibelot*, *26*(1). https://riviste.aib.it/index.php/bibelot/issue/view/1168

CDC. (2018a). World Leprosy Day. *Cent. Dis. Control Prev*. https://www.cdc.gov/features/world-leprosy-day/index.html

CDC. (2020b). *How COVID-19 spreads*. https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/how-covid-spreads.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fprepare%2Ftransmission.html

CepaluniG.DorschM.BranyiczkiR. (2020). Political regimes and deaths in the early stages of the COVID-19 pandemic. *Available at* SSRN 3586767. doi:10.2139/ssrn.3586767

Cheng, A. (2020) *In Coronavirus War Of Words With The U.S., China Pulls No Punches*. https://www.npr.org/2020/05/11/852645612/in-coronavirus-war-of-words-china-pulls-no-punches

Christensen, T. J. (2020). *A modern tragedy? COVID-19 and US-China relations*. Brookings Institution. https://www.brookings.edu/wp-content/uploads/2020/05/FP_20200511_covid_us_china_christensen_v3.pdf

Cooke, N. A. (2018). *Fake News and Alternative Facts: Information Literacy in a Post-Truth Era*. American Library Association.

Cooper, G. F. (2017). *'Fake news' named word of the year, even though it's two words*. https://www.cnet.com/news/fake-news-word-of-the-year-collins-dictionary/

De Paor, S., & Heravi, B. (2020). Information literacy and fake news: How the field of librarianship can help combat the epidemic of fake news. *Journal of Academic Librarianship*, *46*(5), 102218. doi:10.1016/j.acalib.2020.102218

deLisle, J. (2021). When Rivalry Goes Viral: COVID-19, US-China Relations, and East Asia. *Orbis*, *65*(1), 46–74. doi:10.1016/j.orbis.2020.11.003

DisasterM. R. A. (2002). https://www.gov.za/sites/default/files/gcis_document/202003/regulations.pdf

Dongardive, P. (2013). Information repackaging in library services. *International Journal of Scientific Research*, *2*(11), 204–209.

Durodolu, O. O., Ibenne, S. K., & Dube, T. V. (2021). New mental costumes: Leveraging ACRL's value of information frame in dealing with infodemics in a post-truth era. *College & Research Libraries News*, *82*(4), 175. doi:10.5860/crln.82.4.175

Dutta, S., Acharya, S., Shukla, S., & Acharya, N. (2020). COVID-19 Pandemic-revisiting the myths. *SSRG-IJMS*, *7*(5), 7–10. doi:10.14445/23939117/IJMS-V7I5P103

Fisher, S. (2020). *A war of words: China tells us to stop misleading world about origin of covid-19*. https://ewn.co.za/2020/05/06/a-war-of-words-china-tells-us-to-stop-misleading-world-about-origin-of-covid-19

Funke, D., & Flamini, D. (2021). *A Guide to Anti-Misinformation Actions around the World*. Poynter. https://www.poynter.org/ifcn/anti-misinformation-actions

Gelfert, A. (2018). Fake News: A Definition. *Informal Logic*, *38*(1), 84–117. doi:10.22329/il.v38i1.5068

Gilson, L. L., & Goldberg, C. B. (2015). Editors' Comment: So, What Is a Conceptual Paper? *Group & Organization Management*, *40*(2), 127–130. doi:10.1177/1059601115576425

Greifeneder, R., Jaffe, M., Newman, E., & Schwarz, N. (2021). *The psychology of fake news: Accepting, sharing, and correcting misinformation*. https://library.oapen.org/bitstream/handle/20.500.12657/46921/9781000179033.pdf?sequence=1&isAllowed=y

Guess, A., Nyhan, B., & Reifler, J. (2018). Selective exposure to misinformation: Evidence from the consumption of fake news during the 2016 US presidential campaign. *European Research Council, 9*(3), 4. http://www.ask-force.org/web/Fundamentalists/Guess-Selective-Exposure-to-Misinformation-Evidence-Presidential-Campaign-2018.pdf

Jacobson, T. E., & Mackey, T. P. (2013). Proposing a metaliteracy model to redefine information literacy. *Communications in Information Literacy*, *7*(2), 84–91. doi:10.15760/comminfolit.2013.7.2.138

Kavanagh, M. M., & Singh, R. (2020). Democracy, Capacity, and Coercion in Pandemic Response: COVID-19 in Comparative Political Perspective. *Journal of Health Politics, Policy and Law*, *45*(6), 997–1012. doi:10.1215/03616878-8641530 PMID:32464665

Khalid, Z., Yousaf, M. A., Tu-Allah Khan, A., Shakoori, F. R., Munir, M., & Shakoori, A. R. (2020). Debunking Myths about COVID-19, Paranoiac Misconceptions, Recent Developments and its Current Stance. *Pakistan Journal of Zoology*, *52*(6). Advance online publication. doi:10.17582/journal.pjz/20200608144416

Kosciejew, M. (2021). The coronavirus pandemic, libraries and information: a thematic analysis of initial international responses to COVID-19. Global Knowledge, Memory and Communication, 70(4/5).

Lin, H. Y. (2021). COVID-19 and American Attitudes toward US-China Disputes. *Journal of Chinese Political Science*, *26*(1), 139–168. doi:10.100711366-020-09718-z PMID:33519173

Mackey, T. P. (2020). Embedding Metaliteracy in the Design of a Post-Truth MOOC: Building Communities of Trust. *Communications in Information Literacy*, *14*(2), 9. doi:10.15760/comminfolit.2020.14.2.9

Mian, A., & Khan, S. (2020). Coronavirus: The spread of misinformation. *BMC Medicine*, *18*(1), 1–2. doi:10.118612916-020-01556-3 PMID:32188445

Ng, K., Poon, B.H., Kiat Puar, T.H., Shan Quah, J.L., Loh, W.J., Wong, Y.J., Tan, T.Y., & Raghuram, J. (2020). COVID-19 and the risk to health care workers: A case report. *Annls Intern. Med*. doi:10.7326/L20-0175

Quandt, T., Frischlich, L., Boberg, S., & Schatto-Eckrodt, T. (2019). Fake news. *The international encyclopedia of Journalism Studies*, 1-6.

Radu, R. (2020). Fighting the 'Infodemic': Legal Responses to COVID-19 Disinformation. *Social Media + Society*, *6*(3). doi:10.1177/2056305120948190 PMID:34192029

Revez, J., & Corujo, L. (2021). Librarians against fake news: A systematic literature review of library practices (Jan. 2018–Sept. 2020). *Journal of Academic Librarianship*, *47*(2), 102304. doi:10.1016/j.acalib.2020.102304

Rules, R. C. T. A. I. (2018). *National Science Foundation*. https://thefederalregister.org/83-FR/31783/2018-14544.pdf

Sahoo, S., Padhy, S. K., Ipsita, J., Mehra, A., & Grover, S. (2020, December). Demystifying the Myths About COVID-19 Infection and Its Societal Importance. *Asian Journal of Psychiatry*, *54*, 102244. doi:10.1016/j.ajp.2020.102244 PMID:32593121

Shao, C., Ciampaglia, G. L., Flammini, A., & Menczer, F. (2016, April). Hoaxy: A platform for tracking online misinformation. In *Proceedings of the 25th international conference companion on world wide web* (pp. 745-750). http://gdac.uqam.ca/WWW2016-Proceedings/companion/p745.pdf

Sharma, P., Raje, M., Savant, S., & Savant, R. (2021). When Infodemic Overtakes Covid-19 in Spreading Far and Wide. *Annals of the Romanian Society for Cell Biology*, 4721–4730.

Sharma, Y. (2020). *COVID-19 research checks could deter global collaboration*. https://www.universityworldnews.com/post.php?story=20200415141352492

Statutory Instrument No. 61 of 2020 Emergency Powers Act (cap. 22:04) Emergency Powers (covid-19) Regulations, 2020 (Published on 2nd April, 2020 Botswana Extraordinary Government Gazette https://bw.usembassy.gov/wp-content/uploads/sites/125/Emergency-Powers-COVID-19-Regulations-2020.pdf

Statutory Instrument No. 61 of 2020 Emergency Powers Act (cap. 22:04) Emergency Powers (covid-19) Regulations, 2020 (Published on 2nd April, 2020 Botswana Extraordinary Government Gazette https://bw.usembassy.gov/wp-content/uploads/sites/125/Emergency-Powers-COVID-19-Regulations-2020.pdf

Tammaro, A. M. (2020). COVID 19 and Libraries in Italy. *The International Information & Library Review*, *52*(3), 216–220.

Thomson, S., & Ip, E. (2020). COVID-19 emergency measures and the impending authoritarian pandemic. *Journal of Law and the Biosciences*. http://covidseries.law.harvard.edu/wp-content/uploads/2020/10/Thomson-and-Ip-on-Authoritarian-Pandemic-2020.pdf

UNESCO. (2018). *Journalism, "fake news" and disinformation: A handbook for journalism education and training*. https://sanef.org.za/wp-content/uploads/2019/02/UNESCO-Journalism-Fake-News-and-Disinformation-Handbook-for-Journalism-Education-and-Training-2018.pdf

U.S. Congress. Senate, Justice for Victims of Coronavirus Act, S 3588, 116th Cong., 2d sess., introduced in Senate May 4, 2020, https://www.congress.gov/116/bills/3588/BILLS-116s3588is.pdf

van der Linden, S., Roozenbeek, J., & Compton, J. (2020). Inoculating Against Fake News About COVID-19. *Frontiers in Psychology*, *11*, 2928. doi:10.3389/fpsyg.2020.566790 PMID:33192844

von Hein, M. (2020). *Coronavirus pandemic further strains US -China relations*. https://www.dw.com/en/coronavirus-pandemic-further-strains-us-china-relations/a-53650763

Wang, N., Li, S. Y., Yang, X. L., Huang, H. M., Zhang, Y. J., Guo, H., Luo, C. M., Miller, M., Zhu, G., Chmura, A. A., Hagan, E., Zhou, J. H., Zhang, Y. Z., Wang, L. F., Daszak, P., & Shi, Z. L. (2018). Serological evidence of bat SARS-related coronavirus infection in humans, China. *Virologica Sinica*, *33*(1), 104–107. doi:10.100712250-018-0012-7 PMID:29500691

Wang, Q., & Yu, C. (2020). The role of masks and respirator protection against SARS-CoV-2. *Infection Control and Hospital Epidemiology*, *41*(6), 746–747. doi:10.1017/ice.2020.83 PMID:32192550

Wang, X., Pan, Z., & Cheng, Z. (2020). Association between 2019-nCoV transmission and N95 respirator use. *The Journal of Hospital Infection*, *105*(1), 105–105. doi:10.1016/j.jhin.2020.02.021 PMID:32142885

Wang, Y., McKee, M., Torbica, A., & Stuckler, D. (2019). Systematic literature review on the spread of health-related misinformation on social media. *Social Science & Medicine*, *240*, 112552. doi:10.1016/j.socscimed.2019.112552 PMID:31561111

Wardle, C., & Derakhshan, H. (2017). Information disorder: Toward an interdisciplinary framework for research and policy making. *Council of Europe Report, 27*, 1-107. http://tverezo.info/wp-content/uploads/2017/11/PREMS-162317-GBR-2018-Report-desinformation-A4-BAT.pdf

World Health Organization (WHO). (n.d.). *Coronavirus disease (COVID-19) advice for the public: Myth busters*. https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public/myth-busters

Xi, J. (2020). *Fighting COVID-19 through Solidarity and Cooperation Building a Global Community of Health for All*. Ministry of Foreign Affairs of the People's Republic of China. https://www.fmprc.gov.cn/mfa_eng/zxxx_662805/t1780221.shtml

Yamin, M. (2020). Counting the cost of COVID-19. *International Journal of Information Technology*, *12*(2), 311–317. doi:10.100741870-020-00466-0 PMID:32412538

Zhang, X., & Ghorbani, A. A. (2020). An overview of online fake news: Characterization, detection, and discussion. *Information Processing & Management*, *57*(2), 102025. doi:10.1016/j.ipm.2019.03.004

Zheng, W. (2020). *Chinese Communist Party celebrates 99th anniversary by praising coronavirus success*. https://www.scmp.com/news/china/politics/article/3091424/chinese-communist-party-celebrates-99th-anniversary-praisingZheng

KEY TERMS AND DEFINITIONS

Coroinfodeluge: The avalanche of COVID-19 pandemic produced daily at an astronomical pace versus the limited capacity of the human mind to analyse and synthesise and make sense out of it. It also refers to the overabundance of COVID-19 pandemic information and how it difficult it is for users to analyse and make decisions out of it.

Myth: Emblematic chronicle usually of a mysterious derivation and at least semi- traditional, that supposedly relates definite events and that is specially connected with religious belief.

Fake news: This is a portmanteau word because it is composed of two words. It refers false or misleading information presented as news. It symbolizes everything including misinformation, spin-doctoring and conspiracy theories

214

Tirade: A elongated emotionally charged speech of criticism or accusation.

Diatribe: A powerful and acrimonious verbal firepower onslaught against someone or something.

Information disorder: The sharing or evolving or peddling incorrect information with or without the intention to impairing someone or some people or institution or body politic.

Chapter 11

The Changing Role of Library and Information Professionals in the New Normal:
Towards a New Trajectory

ABSTRACT

The COVID-19 pandemic drastically altered the operations of libraries in providing services and products to patrons. In this pandemic period, the role of library and information professionals was changed from conserving and preserving books to facilitators of knowledge in the digital environment. A study was done to examine the changing roles of librarians in the new normal. A structured literature review was done, and personal experiences were also used in the study. It was noted that libraries have shifted to online services where emphasis is put on the acquisition of electronic resources and the utilisation of open education resources to support teaching and learning. It is recommended that librarians should continuously develop themselves to meet the needs of these changing roles and to remain relevant in the new normal.

INTRODUCTION

The COVID-19 pandemic greatly affected all sectors of the economy worldwide leading to the closure of physical libraries and students were banned from entry into campus as a way of curbing the spread of the disease and saving

lives (Rafiq, Batool, Ali & Ullah, 2021; Bhati & Kumar, 2020). Teaching and learning was shifted to the online mode to ensure that classes continue and avoid the risk of losing an academic year. However, academic libraries were supposed to continue offering their services to meet these changes in the new normal. Most libraries were caught unaware and issues such as staff competencies and skills, the information communication technology infrastructure, the work culture, and the mode of the information services and products that were delivered greatly affected the way that libraries operated in the pandemic era (Chigwada, 2020). This called for investment of staff development and reassignment of staff roles and responsibilities to remain relevant in the online teaching and learning era.

One of the librarians stated that we have emergency plans for events such as fire and floods and there is need to develop plans for managing pandemics such as the COVID-19 (EBLIDA, 2020). The plans for dealing with pandemics should be part of the library policies so that every library staff is aware of what he or she is expected to do during such an uneventuality. The objectives of the chapter are:

a) To analyse the changes that were brought about by the COVID-19 pandemic in academic libraries.
b) To document the lessons learnt by academic librarians during the COVID-19 pandemic.
c) To examine the challenges that were faced by academic libraries during the covid-19 pandemic
d) To propose strategies that can be put in place by librarians to meet the challenges of the new normal.

COVID-19 PANDEMIC AND LIBRARIES

The COVID-19 pandemic has ravaged the world and has caused loss of life and it is now in the fourth wave where the Delta Variant is affecting people. All these waves caused some imposed lockdown in various countries where all the library services from acquisition, circulation, reference, and research support services were affected. Some academic libraries closed their doors in March 2020 in response to the call by health ministries and WHO (Chigwada, 2020; Kavanagh, 2020) and had been opening and closing their physical

libraries depending with the strength of the wave. The closure means that there was a shift of services from physical to online since libraries are key in the teaching and learning process (Fasae, Adekoya & Adegbilero-lwari, 2020). In service provision, the academic libraries always comply with the guidelines provided by their parent institutions and academic libraries faced difficulties in making decisions on which services to prioritise from minimum restrictions to temporary closure. As a result, librarians had been looking at what other libraries are doing during the pandemic period as a way of learning and sharing ideas on the best way forward since it was a new thing to most of the libraries in the world (Hinchliffe & Worf-Eisenberg, 2020).

Libraries are worried about how to open safely but since the future is not bright in terms of going back to the normal ways of doing things, librarians have realised that they should restrategise and work under the new normal to provide information. Many waves have already happened and it is now evident that the role of librarians have changed drastically due to the COVID-19 pandemic. Despite the closure of physical library buildings, libraries have been mandated to continue offering their services and this has been done through digital collections Cooper, 2020; Guo, Yang, Yang, Liu, Bielefield, & Tharp, 2020; Hill, 2020; Sweeney, 2020; Mehta & Wang, 2020). This means libraries are changing their service models to remain relevant in the changed environment due to the COVID-19 pandemic.

LIBRARY SERVICES DURING THE PANDEMIC PERIOD

The COVID-19 pandemic disrupted the normal operating procedures and there was need for quick and innovative strategies to respond to the changes so as to meet the information needs of the patrons (Tsekea & Chigwada, 2020). Librarians were supposed to adapt service models and workflows to continue providing quality information resources and assistance to both students and staff during the teaching and learning process. It was noted that most academic librarians in Zimbabwe were not prepared for physical closure of library buildings (Chigwada, 2020), but some saw some opportunities to enhance the library services during that period (Chigwada, 2021) and institutional support was guaranteed since some had been negotiating with university management without success before the pandemic.

During the pandemic, libraries had been offering or strengthening virtual services to assist patrons in finding full text articles and learning to use electronic resources through virtual workshops (Koos, Schenfeld, & Larson,

2021). The use of web conferencing software such as Microsoft Teams, Zoom, WebEx, Bigbluebutton, and Google meet among others were used to provide instructional workshops, webinars, and one on one consultations with the patrons. The development of video tutorials to assist patrons facing challenges in accessing the library services was also done as a way of enhancing the how to guides. There was an increase in the usage of social networking sites such as Facebook, Twitter, Instagram, WhatsApp, LinkedIn, YouTube, and Telegram so as to keep in touch with the patrons and market library services (Lobo & Dhuri, 2021).

There was an urgent need to expand electronic information resources since print materials were not accessible due to the closure of the library buildings and the process of quarantining the print collection to avoid the spreading of the virus. Collections for COVID-19 research were made freely available by most publishers and they also offered temporary access, trials and other special offers for virtual learning resources (Chigwada, 2021). Some publishers offered free access to their resources especially on public health as a way of supporting students and lecturers with online teaching and learning (Robert Gordon University Library, 2020). Academic libraries are now focusing on purchasing electronic books although there are issues like pricing, licensing, and platform performance that affect access and use of e-resources. There was an increase in the access and use of open educational resources especially in academic libraries in developing countries and some who were not able to subscribe to e-resources due to budgetary constraints (Dadhe & Dubey, 2020). The pandemic period was seen as an opportunity to advance the open access movement in academic libraries through promoting and marketing of open access content which is beneficial to patrons.

Remote working was introduced in institutions of higher learning where library staff continue to offer services using emails and social media platforms such as email, WhatsApp, Live chat, Facebook, Twitter and blogs among other avenues. This was necessitated by the limited number of users who were supposed to be in the library at a given time due to the social distancing requirements which was used as a safety measure to limit the spreading of the virus. Rearranging seating space was also done in academic libraries that were open to meet the social distance requirements when the libraries reopen (Medawar & Tabet, 2021).

As a way of dealing with the COVID-19 pandemic challenges, most libraries put up safety measures to avoid the spreading of the disease (Okike, 2021). Social distancing measures were put in place whereby communication was done online and via social media to decongest the libraries, attendance to

patrons was cancelled, information literacy skills training sessions were done online, conferences and workshops were cancelled, paper presentations were cancelled, local and international travels were cancelled, and meetings were done online. This shows that the pandemic has changed the way libraries operate and how research is conducted because some have reduced their opening hours while providing online services. The safety measures that were put in place include:

1. Total closure of the physical library,
2. Provision of hand sanitisers,
3. Use of face masks and nose covers,
4. Awareness campaigns through posters and short speeches,
5. Regular communication to staff with updates and guidelines on safety measures,
6. Inscription of safety measures on posters within the library,
7. Daily sanitisation of entry door handles of libraries,
8. Restriction of book borrowing,
9. Paper towel replacing hand driers in restrooms,
10. Weekly disinfection of all computer keyboards, and
11. Quarantining returned books for a specific period.

CHANGES BROUGHT BY COVID-19 IN LIBRARIES

When the physical libraries were closed, services were supposed to continue since students were now learning online. Academic librarians were supposed to work from home to do the administrative work and also to assist patrons (Rafiq, Batool, Ali & Ullah, 2021). Some librarians were supposed to go into the office once or twice in a week on demand to scan book chapters and other materials that were not available in electronic format, and some library services such as printing and photocopying were suspended to avoid the touching of physical surfaces which spread the virus. Meetings were held online with management to deal with policy changes and update the library staff on what they were supposed to do during the pandemic period. Patrons were also contacting the libraries using various online platforms and librarians were supposed to attend to these online queries to provide the information resources that were requested by the patrons (Hornung, 2020).

The communication channels that were used by the librarians were telephone calls, WhatsApp, email, ask a librarian or chat service, and social

220

media platforms. Academic librarians provided open digital content, updating library websites, downloading and sending books, and answering daily user queries in assisting the patrons during the teaching and learning process. In order to support online classes, digital collections were offered by academic libraries and a number of publishers provided open access to some of their previously paid for resources during the pandemic (Medawar & Tabet, 2021). This shows that those libraries with hybrid collections were well placed to deal with the changes that were brought about by the COVID-19 pandemic.

Online reference services were provided during the COVID-19 pandemic when patrons were not allowed to physically visit the library. The pandemic created more awareness of library collections and services and academic librarians were able to assist patrons through ask a librarian service, one-point access service, eBook related services access and plagiarism check (Rafiq, Batool, Ali & Ullah, 2021). Therefore, the library was supposed to be present online so as to meet the changing needs of users which were necessitated by the pandemic since most of the libraries were caught unaware. This was seen as an opportunity to position the library in the new normal so as to cater for the online teaching and learning needs. Academic librarians were compelled to improve their online presence so as to remain relevant by adding and uploading online content and services so that patrons would access relevant and current information. The library website was supposed to be up to date and always up and running as it is the main portal of information to the resources and services provided by the library.

CHALLENGES BROUGHT ABOUT BY THE COVID-19 PANDEMIC

In the changing online education environment, librarians were supposed to work remotely, deliver digital resources online, and also do online instruction for information literacy skills and orientation. This presented financial, administrative and pedagogical challenges which were worsened by the declining economic climate of most countries especially those in the developing world. The major challenge that was experienced by academic libraries was the transition from the normal face to face physical encounter with patrons to purely online information service delivery (Rafiq, Batool, Ali & Ullah, 2021). This was hampered by lack of financial resources to subscribe to the electronic collection and purchase the needed infrastructure

to provide digital and online services since there was a critical shortage of hardware and IT support to enable librarians to work from home.

Provision of services purely online was a new phenomenon to many libraries and there was a problem of coordinating the processes and also working with other departments since the library cannot operate alone. The library works with the IT department, service providers, the university management, library management team and the internet service providers (Asif & Singh, 2020). It was difficult to organise classes online and then deliver instruction since most of the librarians were used to the face to face lectures. This was worsened by various channels that were used by libraries to get in touch with the patrons in publicising and marketing the library events and activities such as library or university accounts leading to confusion among the patrons on where to get correct information.

Poor infrastructure and low internet penetration in some areas where most of the patrons live caused a challenge in accessing and using library resources (Ifijeh, & Yusuf, 2020). This can be a major hindrance in accessing and using electronic resources and other digital services that might be provided by academic libraries. This shows that not all the students would benefit from virtual services due to limited access to the internet which have been caused by the digital divide between the rural and the urban (Guthrie, Hill, Kurzweil & Le, 2020). Therefore, online services would not benefit the students uniformly but would widen the disparities between the rich and the poor.

The advent of online classes did not benefit all the students since some students cannot access the learning management system nor use the web conferencing tools that were adopted for live lessons (Ameen, 2021). This is attributed to the high cost of data which is beyond the reach of many students and librarians. People cannot afford to install and manage private WIFI in their homes and as a result, some digital services were not accessible to some students. Internet connectivity had been always a challenge in most institutions even before the covid-19 pandemic and even those on campus were not guaranteed of a stable connection (Martzoukou, 2021). This shows that most students and librarians were in need of institutional support for them to continue offering library services in the pandemic era.

Some libraries were not providing remote access to e-resources and this negatively affected access and use of online subscribed electronic resources since both staff and students were not on campus (Baloch & Musyani, 2020). There was no access to the print collection in the library and the returned books were quarantined for 48 hours to mitigate the spreading of the virus (Tolppanen, 2021). The pandemic was a wakeup call to some academic libraries

who were caught unaware to think about new ways of offering information services to patrons such as remote access.

Lack of digital literacy skills among the users and some of the librarians who were supposed to deliver services during the pandemic period was another challenge that was faced in the pandemic period. Digital skills involve "information and data literacy, communication and collaboration, media literacy, creating online content, online safety and digital wellbeing as well as problem solving, critical thinking and innovation with online tools and technologies" (Martzoukou, 2021: 270). This means that institutions were supposed to train both the students and the librarians to have digital competencies and have the right attitudes in accessing and using online information and be innovative in using digital media for the learning processes (Carretero, Vuorikari, & Punie, 2017).

Working from home was a new phenomenon which academic librarians were not used to. They were supposed to adapt to the new normal and the working style so as to provide the much needed services during the pandemic. Those who failed to manage the new routine experienced pressure and stress and were negatively affected mentally, socially and physically (Martzoukou, 2021). There were also some technologies that were requirement for the librarians to be able to offer the services from home. The need for powerful laptops and internet connection was a challenge since some librarians could not afford to buy these materials for themselves and some institutions were not able to assist their employees to get the necessary equipment to be able to work from home. There is a greater need to equip the workforce, students, and society with the digital literacy skills to deal with the information overload in the pandemic era.

There is a lack of knowledge on copyright and fair use issues among the academics (Cox, 2020). Libraries who plan to have digitisation projects should have digitization policies to deal with copyright issues. There are some barriers to digitisation which are lack of established digitisation plans, policies and procedures, less priority of digitisation projects, as well as lack of infrastructure, financial and human resources (Rafiq, Ameen & Jabeen, 2018). In view of the print collection, there is a lot of information resources waiting to be processed through accessioning, cataloguing, and classification since most of the librarians were working from home and they cannot access the print collection. Those who are coming to the library would be to provide a skeletal service in accessing electronic information resources. The other challenge on developing the collection are the delays in acquiring materials

from international vendors due to the suspension and delay of international shipping as a way of reducing the spread of the disease (Xia & Qiao, 2020).

STRATEGIES EMPLOYED TO MEET THE COVID-19 PANDEMIC CHALLENGES

Libraries reacted differently to the challenges that were presented by the COVID-19 pandemic but most of the libraries closed their buildings to avoid spreading the disease. During the pandemic, libraries temporarily closed to protect the wellbeing of staff and students while providing online services. Librarians had to monitor the operations of servers and resolve any technical problems to avoid disrupting service provision during the pandemic period (Xia & Qiao, 2020; Qing & Xue, 2020; Qiu & Zheng, 2020). Some libraries had to categorise the users into groups and levels and then tailor make the services according to their respective needs in offering research support services. User guides were created and made available on a one stop service platform. Library resources were also integrated into the curricula and other virtual learning environments to make them easy to access via the website and give personalised reference services to the patrons. Funds permitting, some libraries offered self-service for borrowing and returning books to avoid physical contact of books and library staff. This shows that some libraries considered this as an opportunity to offer new services to the clientele.

Library associations were proactive in providing information on best practices to assist librarians in dealing with the challenges of the COVID-19 pandemic. The International Federation of Library Associations and Institutions (IFLA) compiled information on the situation around the world with regard to libraries (International Federation of Library Association and Institutions, 2020). The African Library and Information Associations and Institutions (AFLIA) made available some resources on their website to assist librarians as they provide information services to the public (African Library and Information Associations and Institutions, 2020). Therefore, librarians were able to learn from other libraries how they were dealing with the pandemic and get information on the new services that they could offer to their patrons.

The American Library Association created a webpage with information on the implications of the COVID-19 pandemic and how to respond to the challenges (American Library Association, 2020). The Association of College

224

and Research Libraries (2020) developed a guide to support academic libraries in terms of professional development, best practices, collection management during the pandemic period and how to prepare for library reopening. Academic librarians could utilise such resources in order to stay up to date with what is happening in other libraries in planning for their own services locally.

In order to deal with the new normal, academic libraries were supposed to plan how they were going to operate when it was time to reopen the libraries (Chigwada, 2020). Libraries were supposed to plan for social distancing and implement safety measures such as handwashing and have sanitizers on every entrance and exit point. They were supposed to follow university standard operating procedures and ensure that the seating space adhered to social distancing, and books that were returned were kept for at least 48 hours before library staff can check in the books as a way of ensuring that the virus would die if the books were contaminated. This means that there was need to waive fines of all the overdue materials since they were not checked in as they were returned to the library but have to be quarantined first to deal with the spreading of the virus.

Working from home was another strategy that was employed by most libraries. Web conferencing tools such as Zoom, Google Meet, Bigbluebutton were used to hold meetings and offer training sessions especially on information literacy and other workshops as a way of continuing the services that were affected by the lockdown and closure of physical libraries. Libraries took advantage of the social media to communicate with users and market library services since the pandemic was seen as an avenue that increased the awareness of library resources and services among its patrons (Adigun, Okuonghae, Mamudu, Suleiman & Haliru, 2020). However, Ncube (2020) stated that most librarians in Zimbabwe cannot afford WIFI services at home and some email services were not easily available outside their work environment.

Okike (2020) and Shonhe (2017) summarised the digital strategies that were used by libraries to disseminate information as personalised collections, text notifications, the use of QR codes, use of online reference services, use of academic social networks, using library websites, mailing lists and the online public access catalogue (OPAC). Libraries utilised the personal electronic space where patrons managed their own accounts through the use of custom-made collection and information resources. Patrons were able to create their profiles from wherever they are as long as they were connected to the internet, and received various alerts with regard to the materials of their choice. They renewed their borrowed items, or requested for the document delivery service and librarians provided the requested information via e-mail.

If the library does not have electronic copies, librarians scanned the hard copies taking into account the copyright issues on the number of pages that can be sent out to patrons and send to users' personalised spaces using the selective dissemination of information process.

Librarians also utilised text notifications to alert patrons on COVID-19 and gave updates on what is happening and what the patrons should do to stay safe during the pandemic period. Various social media platforms were used to market library products and services since most users were on social media and libraries created official social media accounts on twitter, Facebook, skype, Instagram, and YouTube to be able to communicate with the clients (Okike, 2020). Quick Response (QR) codes were also utilised to get to certain websites and online reference services were used to assist patrons virtually, while the library websites acted as one stop shop for all the library services in sharing important and relevant information, links, and gave notices and announcements with regard to COVID-19 and the library products and services.

LESSONS LEARNT DURING THE COVID-19 PANDEMIC IN LIBRARIES

It has been noted that the COVID-19 pandemic is here to stay and librarians should be prepared to work from home and support online teaching and learning in the long run. Lessons were learnt in preparedness, communication, documentation, collaboration, staffing, library modality, and infrastructure which shaped plans for library reopening (Ohler & Pitts, 2021). Planning for emergencies helps academic libraries to better respond to disruptions such as those caused by the pandemic (International Federation of Library Associations and Institutions, 2020).

Academic libraries should develop and implement library pandemic plans and library business continuity plans (Harris, 2021; Association of African Universities, 2020; Poudre River Public Library District, 2020). Involvement of the librarians would ensure a smooth transition to remote working and learning where plans are put in place to guide both the students and lecturers and other employees on how they are supposed to conduct work while at home. The plans would also guide how librarians should engage with other departments such as information technology (IT), the various schools and faculties, and other researchers to provide research support services during

the pandemic period. Collaborations and discussions with other stakeholders would help the librarians to better understand current needs of patrons at the same time planning for the future needs necessitated by the COVID-19 pandemic.

Librarians should have disaster and risk management plans to deal with physical access restrictions and social distancing requirements which have greatly affected service provision whereby some libraries would operate sorely online offering remote access to electronic information services while others would offer blended services with their presence on the campus and online (Martzoukou, 2021). Clear operations plan would also help to pinpoint the online service provision as well as the safety measures in handling books during the pandemic period and also sanitation and disinfection of library resources to mitigate risk of transmitting the virus (Ball State University, 2021).

The pandemic had been a catalyst for change which led to the paradigm shift in service provision. There is a need to invest and develop technology access and offerings through subscription to electronic information resources and virtual platforms for online services, events and be able to access one's desktop when working from home. There is a need to pivot all services to the online mode through virtual library tours and orientation. Upgraded and expanded information communication technology platforms, artificial intelligence, digitised resources, electronic resources, staff access to technological devices from home, home internet access for library staff would ensure that there is no library service disruption in the face of a pandemic (Rafiq, Batool, Ali, & Ullah, 2021). It was added that institutions should support librarians with internet connectivity at home to enable them to serve clients from anywhere and ensure that core library services continue even in lockdown (Tsekea & Chigwada, 2020).

The changes brought about by the pandemic automatically changed the role of academic librarians. Continuous professional development is key to meet the changes taking place and librarians should train in "pedagogic theory and practice, and online curriculum design" (Martzoukou, 2021: 272). There is a need to reskill and retool library staff to function in an online environment and all library staff should have the requisite digital skills to deliver basic online services to ensure business continuity during a pandemic (Greenhall, 2020; Lobo & Dhuri, 2021). Librarians are now regarded as digital people who are expected to run and manage digital libraries and provide access to information resources off campus. This would help the libraries to have a strong online presence in offering digital services. Institutions should, therefore, be intentional in training librarians to be able to deliver services

remotely during this time of restrictions and closure of physical libraries (Frederick, Schonfeld, & Wolff-Eisenberg, 2020). In order to accomplish this, all the librarians should have the requisite skills and competencies of organising digital knowledge and information to the patrons especially in this 4th industrial revolution and the COVID-19 pandemic era where physical libraries are closed (Lashley, Graham, & Prawl, 2021). Librarians can take advantage of the online workshops, webinars, and training resources and materials that are available on many websites in order to learn about best practices in the pandemic period.

There is a need for a hybrid model with greater focus on the online segment which allows remote access to library resources during the time of physical closure of libraries. Library services should be remotely accessible to students and staff on a regular basis by providing any resource and every type of support at any time (Howes, Ferrell, Pettys & Roloff, 2021). This can only be achieved if resources are made available to support such services through subscription to various electronic databases which provide access to electronic books and journals. There is also a need to ensure that the infrastructure is available for librarians to offer such services and for the patrons to be able to access these services and products.

CHANGING ROLE OF LIBRARIANS

The role of librarians become more crucial and demanding during times of crisis since many academic librarians now have a teaching responsibility especially for digital literacy in creating lifelong learners who are able to utilise digital technologies to access and use electronic information resources (Martzoukou, 2021). In order to deal with this situation, academic libraries were forced to redesign their role and services so as to meet the changing needs of the users (Liber, 2020). Librarians are said to have an important role of disseminating information and resources pertaining to COVID-19 using various virtual media channels especially to those people who are not able to come to the library due to closure and social distancing measures that are used to decongest the library. Okike (2020) stated that librarians should reach their users and provide up to date and relevant information and the use of online reference services allow librarians to improve the efficiency of librarians to provide reference and information services throughout the day.

Health sciences librarians played a major role during the COVID-19 pandemic. Ali and Gatiti (2020) pointed out that the three key roles which

they played were promotion and dissemination of preventive measures as a public health campaign exercise; provide latest information to researchers on the COVID-19 pandemic; and to assist their usual library users. Librarians are supposed to raise awareness by providing public health education as well as providing support to medical staff dealing with the COVID-19 pandemic, and provide links to other resources that might assist in the fight against the COVID-19 pandemic (Adigun, Okuonghae, Mamudu, Suleiman, & Haliru, 2020).

Some librarians were called frontline librarians who played a societal role such as promoting reading habits and providing reading materials to those people in isolation. Librarians also provided words of sympathy and guidance to encourage citizens to use authentic sources of information during the pandemic period. The provision of books in various formats such as audio or electronic can help users to deal with stress caused by the COVID-19 pandemic (Wang & Lund, 2020). In order for librarians to deliver such services, there is need for them to develop their skills in the use of various information communication technology tools and secure the personal data of the patrons as well as the information they access as a way of avoiding hackers from prying on the confidential information (Okike and Adetoro, 2019).

Some academic librarians were conducting information literacy sessions to help curb the spread of fake news and misinformation and prepare the nation against the infodemic (Ishtiaq, Sehar, & Shahid, 2020). This was a way of guiding users and discouraging them from using and spreading disinformation and misinformation in the society. This has been necessitated by the information explosion where anyone can publish anything on the internet and the circulation of fake news on social media about the pandemic and how people can use home remedies to deal with the virus. The librarians have a role in educating the patrons how they can evaluate information sources to distinguish fake from real information. Social media tools had been used to spread misconceptions and unreliable information on the pandemic as they were the primary sources of information (Neem & Bhatti, 2020).

In terms of library instruction and services, librarians are now expected to provide online information services to assist patrons who are now doing the teaching and learning processes online. A range of online services are now expected from the librarians such as "online guide to specific databases, online tutorial provision, interactive live sessions/courses/seminars, online one on one support, online referencing templates and research techniques video overviews" (Martzoukou, 2021: 270). This shows that librarians are now more into the use of technology to design these tutorials and must learn

how to use the various tools and techniques to develop the tutorial to assist the patrons in using the various online services. A user should be able to access and use the services without any challenges by consulting these how to guides.

Librarians are now regarded as advocates and should advocate for open access rights among the students and staff (Zhou, 2021). They should provide guidance and support to researchers who want to publish their research via open access. It is important for the librarians to use this knowledge of open access to assist their institutions in the creation and adoption of institutional open access policies to strengthen the role of library as publisher. There is need for librarians to be trained on how they can fulfil this new role, for example, the use of the open journal system where the library can host the institutional journals while one of the library staff members is the journal manager responsible for ensuring that the publication process is going on well. The pandemic had strengthened the position of librarians in the open access debate.

Martzoukou (2021) pointed out that librarians should act as the connecting link in coming out with strategic visions in supporting all the learners regardless of their background to deal with barriers in accessing and using online information and services. Librarians should work with the academic staff to increase awareness on the available information resources and services to make the online teaching and learning process easier. Collaborations with other libraries in the provision of various services would also help to deal with licensing issues since institutions can subscribe for electronic information resources though a consortium (International Coalition of Library Consortia, 2020). It is also important to learn what other libraries are doing so as to provide services that would protect both the patrons and the library staff during the pandemic period.

SOLUTIONS AND RECOMMENDATIONS

Institutions of higher learning should have disaster preparedness plans to deal with such issues as the pandemics to avoid the disruption of learning. Librarians would have a plan to fall back on when disaster strike and this shows that libraries have to rewrite their library policies to meet the changing needs. Libraries should also work towards the development of emergency communication plans to educate both the staff and the patrons on the best way of communicating with the librarians during the pandemic period. This

230

would assist both the librarians and the patrons when major crisis like the pandemic occurs. Librarians should also have plans and policies supporting the uninterrupted supply of electricity and internet to ensure that the servers are always up and running to provide unlimited access to library services to the patrons.

The ministry should support higher education institutions in subscribing to electronic resources, acquiring software for online classes and providing data for both the students and library staff to continue offering library services. The nation must have a policy which support acquisition of important resources and materials that promote access and use of electronic resources during times of crisis. In Zimbabwe, for example, most of the resources and library systems are not locally available and foreign currency should be availed to acquire these resources. If there is no support from the government, it would be impossible to offer such services during the times of need.

There is also need to invest in ICT infrastructure and prioritise digital transformations in the country so as to improve internet penetration and bridge the digital divide among the villages, towns and cities. This shows that the Government should include librarians in the COVID-19 taskforce team and also in making some policies concerning issues of preparedness of institutions and the country for future pandemics. In Zimbabwe, this can be done by engaging the national association which is the Zimbabwe Library Association (ZimLA).

The library should continuously train patrons on new services and products, and avenues to offer online training sessions should be availed by higher education institutions. Library staff should always be in touch with the patrons and internet charges are beyond the reach of many calling for institutional support in offering such services. Enabling policies at institutional level should be put in place to support online teaching and learning. Training of both students and library staff is key in offering digital library services and help patrons to abide to social distancing standards and the WHO protocols during the covid-19 pandemic era (Mousumi, 2020). Libraries can achieve this by developing standard operating procedures for both staff and users to adhere to the laid down procedures.

It is important for libraries to have digital libraries and platforms with up to date information which can be utilised by patrons from wherever they are. University libraries should revamp their library web pages, reassign resources and offer perpetual online access to electronic information resources to increase the accessibility of information. Libraries should play a pivotal role in helping the students online since teaching and learning is now done

mostly online. There is need to prepare the resources, services, systems and staff to remain relevant in the online environment. Off campus access to all library resources would enhance accessibility and use of electronic information resources among the library patrons. Digitisation initiatives and online access to content in digital format would help to increase access to electronic information resources in this pandemic period. These should be approved by the competent authorities of the institution.

Academic libraries should be pivotal in offering online information and digital literacy instruction and countering fake news, misinformation and disinformation (Fernando, & Jayasekera, 2020; Javaid, Haleem, Vaishya, Bahl, Suman, & Vaish, 2020). Libraries should coordinate with faculty, academic units, and societal organisations to provide the correct information with regard to the pandemic and how to deal with such cases. This would help to deal with the problem of fake news which have been rampant in the society. Librarians therefore should showcase their value and expertise through digital literacy instruction to library patrons and the community through community engagement to assist them on getting authentic online information resources. This is because libraries are regarded as centres that should assist researchers to get current and correct information.

There is need to redesign library and information services to increase the reach and impact of academic libraries in supporting online teaching and learning. This can be accomplished by using various social media platforms that are available, developing library websites that are easy to navigate, developing simple how to guides, and offering online reference services. The covid-19 pandemic showed that electronic resources and internet access are key to higher education and institutions should ensure that they are always accessible. Therefore, institutions should prioritise library budgets and increase electronic resources and electronic services. There is need to invest in new technologies, infrastructure, systems, and staff development to serve in emerging online environments to ensure that online educational materials are available to users in conducting research.

Librarians should continue their awareness role by participating in awareness campaigns on how patrons and the community can make use of the safety measures and the social distancing measures according to the guidelines provided by WHO, the Ministry of health and child care, and other policies at institutional level. Librarians have a greater role to play in this time of the pandemic so as to deliver accurate health-related information resources and they have to work with the environment health technicians and health workers through establishing good relationships with health and

232

communication agencies. Librarians cannot do it alone but there is need to work together with other stakeholders to achieve their role in the pandemic times. This would encourage the library patrons to abide by the directives as a way of adhering to the safety measures to reduce the spread of the virus. In this way, the librarians would be protecting themselves as well as the patrons and their families.

Library schools which are responsible for training librarians should incorporate the emerging issues in their curricula by continuously updating the content that is delivered to students. They should train librarians who are able to meet the challenges being faced currently and in the future such as dealing with digital literacy to be able to access and use digital information and also train the users in digital literacy skills. They should be knowledgeable about open access and open educational resources and how they can make use of these resources to offer services in accessing and using electronic information resources in cases where the institutions are not able to budget for electronic resources subscriptions.

AREAS FOR FURTHER STUDIES

A study can be done to analyse what librarians are doing to capacitate themselves in dealing with their changing roles in the pandemic era. It would also be helpful to do a study on how librarians have been assisting those who are in the rural areas without electricity and internet access during this pandemic period. These people were left out and could not receive the online materials due to the digital divide although the teaching and learning process is now online. Although village health workers are there in the rural areas, it would be important to know if the librarians are also part of the team that is educating these people on how they can stay safe and avoid the spreading of the disease.

CONCLUSION

The new normal forced academic libraries to revamp their web presence and adopting various strategies to meet the changing and new demands of the online users. New electronic resources and online reference services were provided to enhance efficiency and effectiveness in service delivery. Working from home was a new way of providing library services during the

time of physical library closure leading to the changing role of librarians in information provision. Health librarians were instrumental in offering information services about the pandemic and also dealing with the challenge of fake news, misinformation, and disinformation termed the infodemic. The libraries were forced to be proactive in taking measures that reduce the spread of the disease. The following challenges should be dealt with to redesign services so as to provide unlimited access to library resources and services during the pandemic period and beyond, i.e. lack of skills among the library staff, poor digital skills among the users, copyright issues, poor infrastructure, the digital divide, lack of resources, and access management. The librarians therefore, should be trained to get the skills and competencies that are required in providing online services and the use of web conferencing tools to continue offering the required information services and remain relevant in the new normal.

REFERENCES

Adigun, G. O., Okuonghae, O., Mamudu, P. A., Suleiman, I., & Haliru, R. A. (2020). Interrogating the role of libraries in the fight against COVID-19 pandemic: The Nigerian perspective. *International Journal of Knowledge Content Development and Technology*, *10*(4), 47–64.

African Library and Information Associations and Institutions. (2020). *Suite of COVID-19resources for Librarians*. https://web.aflia.net/suite-of-covid-19-resources-for-librarians/

Ali, M. Y., & Gatiti, P. (2020). The COVID-19 (coronavirus) pandemic: Reflections on the roles of librarians and information professionals. *Health Information and Libraries Journal*, *37*(2), 158–162. doi:10.1111/hir.12307 PMID:32251543

Ameen, K. (2021). COVID-19 pandemic and role of libraries. *Library Management*, *42*(4/ 5), 302–304. doi:10.1108/LM-01-2021-0008

American Library Association. (2020). *Coronavirus pandemic (2019–2020)*. https://www.ala.org/tools/future/trends/coronavirus

Asif, M., & Singh, K. K. (2020). Trends, opportunities and scope of libraries during COVID-19 pandemic. *IP Indian Journal of Library Science and Information Technology*, *5*(1), 24–27. doi:10.18231/j.ijlsit.2020.005

Association of African Universities. (2020). *Press release on the coronavirus pandemic (COVID-19): disruption of educational activities and proposed responses*. http://www.aau.org

Association of College and Research Libraries. (2020). *Pandemic resources for academic libraries*. https://acrl.libguides.com/pandemic/home

Ball State University. (2021). *Ball State University Libraries COVID-19 operations plan*. https://www.bsu.edu/about/administrativeoffices/ emergencypreparedness/pandemicfluprep/coronavirus/plans-resources/ libraries

Baloch, S. M., & Musyani, Z. (2020, July 8). Pakistan's great digital divide. *The Diplomat*. https://thediplomat.com/2020/07/pakistans-great-digital-divide

Bhati, P., & Kumar, I. (2020). Role of library professionals in a pandemic situation like COVID-19. *International Journal of Library and Information Studies*, *10*(2), 33–48.

Carretero, S., Vuorikari, R., & Punie, Y. (2017). *DigComp 2.1: the digital competence framework for citizens with eight proficiency levels and examples of use*. Luxemburg: Publications Office of the European Union.

Chigwada, J. (2020). Preparedness of librarians in Zimbabwe in dealing with COVID 19 library closure. *Qualitative and Quantitative Methods in Libraries,* 107 - 116. http://78.46.229.148/ojs/index.php/qqml/article/view/628

Chigwada, J. P. (2021). Opportunities and Challenges Offered by the Effects of the COVID-19 Pandemic on Academic Libraries. In B. Holland (Ed.), *Handbook of Research on Library Response to the COVID-19 Pandemic* (pp. 342–357). IGI Global. doi:10.4018/978-1-7998-6449-3.ch018

Cooper, D. (2020). *Dispatches from the higher Ed #covidclassroom: teaching and learning edition*. https://sr.ithaka.org/blog/dispatches-from-the-higher-ed-covidclassroom

Cox, C. (2020). Changed, changed utterly. *Inside Higher Ed.* https://www. insidehighered.com/views/2020/06/05

Dadhe, P. P., & Dubey, M. N. (2020). Library Services Provided During COVID-19 Pandemic: Content Analysis of Websites of Premier Technological Institutions of India. *Library Philosophy and Practice (e-journal). 4445.* https://digitalcommons.unl.edu/libphilprac/4445

EBLIDA. (2020). *A European library agenda for the post-Covid 19 age*. www.eblida.org

Fasae, J. K., Adekoya, C. O., & Adegbilero-lwari, I. (2020). Academic libraries' response to the COVID-19 pandemic in Nigeria. Library Hi Tech. doi:10.1108/LHT-07-2020-0166

Fernando, I. D. K. L., & Jayasekera, P. K. (2020). Reopening the academic library in the post-pandemic season: A lesson-learned from the COVID-19 pandemic. *Journal of the University Librarians Association of Sri Lanka*, *23*(2), 47–70. doi:10.4038/jula.v23i2.7975

Frederick, J., Schonfeld, R. C., & Wolff-Eisenberg, C. (2020). *The impacts of COVID-19 on Academic Library Budgets: fall 2020.* The Scholarly Kitchen. https://scholarlykitchen.sspnet.org/2020/12/09/academic-library-budgets

Greenhall, M. (2020). *Covid-19 and the digital shift in action: RLUK report*. RLUK.

Guo, Y., Yang, Z., Yang, Z., Liu, Y. Q., Bielefield, A., & Tharp, G. (2020). The provision of patron services in Chinese academic libraries responding to the COVID-19 pandemic. *Library Hi Tech*, *39*(2), 533–548. doi:10.1108/LHT-04-2020-0098

Guthrie, K., Hill, C. B., Kurzweil, M., & Le, C. (2020). *Duke Kunshan University: a case study of implementing online learning in two weeks,* ITHAKA S+R. https://dukukunsha.edu.cn/en/news/special-message-novel-coronavirus

Harris, S. Y. (2021). The coronavirus pandemic in the Caribbean academic library: Jamaica's initial interpretation of strength, biggest impact, lessons and plans. *Library Management*, *42*(6/7), 362–375. doi:10.1108/LM-10-2020-0149

Hill, C. B. (2020). *COVID-19 and American Higher Education.* https://sr/ithaka.org/blog/covid-19-and-american-higher-education

Hinchliffe, L. J., & Worf-Eisenberg, C. (2020). *Academic library response to COVID-19: The first 24 hours of survey data*. https://sr.ithaka.org/blog/academic-library-response-to-covid19/

Hornung, E. (2020). Coping with COVID-19 Challenges: Experiences of a Solo Librarian in Ireland. *The International Information & Library Review*, *52*(4), 327–328. doi:10.1080/10572317.2020.1834253

Howes, L., Ferrell, L., Pettys, G., & Roloff, A. (2021). Adapting to remote library services during COVID-19. *Medical Reference Services Quarterly*, *40*(1), 35–47. doi:10.1080/02763869.2021.1873616 PMID:33625328

Ifijeh, G., & Yusuf, F. (2020). COVID-19 pandemic and the future of Nigeria's university system: The quest for libraries' relevance. *Journal of Academic Librarianship*, *46*(6), 1–9. doi:10.1016/j.acalib.2020.102226 PMID:34173398

International Coalition of Library Consortia. (2020). *Statement on the global COVID-19 pandemic and its impact on library services and resources*. http://www.icolc.net

International Federation of Library Association and Federation. (2020). *COVID-19 and the global library field.* https://www.ifla.org/covid-19-and-libraries

Ishtiaq, S., Sehar, N., & Shahid, A. (2020). Information dissemination during COVID-19 and lockdown: the role of university libraries of Sandh, Pakistan. *Library Philosophy and Practice (e-journal)*. 4280. https://digitalcommons.unl.edu/libphilprac/4280

Javaid, M., Haleem, A., Vaishya, R., Bahl, S., Suman, R., & Vaish, A. (2020). Industry 4.0 technologies and their applications in fighting COVID-19 pandemic. *Diabetes & Metabolic Syndrome*, *14*(4), 419–422. doi:10.1016/j.dsx.2020.04.032 PMID:32344370

Kavanagh, A. (2020). Going digital: Academic libraries' response to the COVID-19 pandemic. *An Leabharlann: The Irish Library*, *29*(2), 26–33. doi:10.21427/6mhq-hk30

Koos, J. A., Schenfeld, L., & Larson, C. (2021). Pandemic-proofing your library: Disaster response and lessons learned from COVID-19. *Medical Reference Services Quarterly*, *40*(1), 67–78. doi:10.1080/02763869.2021.1873624 PMID:33625324

Lashley, B., Graham, N., & Prawl, N. (2021). Coping with COVID-19: The case of the National Library of Jamaica. *Alexandria*. *The Journal of National and International Library and Information Issues.*, *30*(2-3), 1–12. doi:10.1177/0955749020984937

Liber. (2020). *COVID-19 Survey Report: How have academic libraries responded to the COVID-19 crisis?* www.libereurope.eu

Lobo, J., & Dhuri, K. R. (2021). Positive impact of COVID-19 pandemic in enhancing digital literacy skills among library professionals: a study. *Library Philosophy and Practice (e-journal) 5243.* https://digitalcommons.unl.edu/libphilprac/5243

Martzoukou, K. (2021). Academic libraries in COVID-19: A renewed mission for digital literacy. *Library Management*, *42*(4/ 5), 266–276. doi:10.1108/LM-09-2020-0131

Medawar, K., & Tabet, M. (2021). Library collections and services during COVID-19: Qatar National Library experience. *Alexandria. The Journal of National and International Library and Information Issues*, *30*(2-3), 1–13. doi:10.1177/0955749020986377

Mehta, D., & Wang, X. (2020). COVID-19 and digital library services–a case study of a university library. *Digital Library Perspectives*, *36*(4), 351–363. doi:10.1108/DLP-05-2020-0030

MousumiS. (2020). Library access policies post COVID-19 pandemic. https://ssrn.com/abstract=3610042

Ncube, H. (2020). Zimbabwean libraries in the COVID-19 era: libraries adapting to global change and supporting livelihoods during an epidemic. *ZimLA News*. https://www.ifla.org/documents/zimla_report

Neem, S. B., & Bhatti, R. (2020). The Covid-19 infodemic: a new front for information professionals. *Health Information and Libraries Journal*. https://onlinelibrary.wiley.com/doi/10.1111/hir.12311

Ohler, L. H., & Pitts, J. (2021, January). From peril to promise: The academic library post COVID-19. *College & Research Libraries News*, *82*(1), 41–44. doi:10.5860/crln.82.1.41

Okike, B. I. (2020). Information dissemination in an era of a pandemic (COVID-19): Librarians' role. *Library Hi Tech News*, *37*(9), 1–3. doi:10.1108/LHTN-04-2020-0040

Okike, B. O. I., & Adetoro, N. (2019). Securing the information systems of libraries and the influence of tech-skills of librarians and users. *Education and Information Technologies*, *24*(2), 1583–1602. doi:10.100710639-018-9842-z

Poudre River Public Library District. (2020). *Infectious disease outbreak/ pandemic response plan.* https://www.poudrelibraries.org/about/pdf/2020-coronavirus.pdf

Qing, Y., & Xue, S. *Reflections on emergency services of a university library.* https://www.library.cornell.edu/default/files

Qiu, Z., & Zheng, L. (2020) K*eeping library services functional during the pandemic period: measures adopted by Tsinghua University Library to combat the COVID-19 outbreak.* https://www.library.cornell.edu/default/files

Rafiq, M., Ameen, K., & Jabeen, M. (2018). Barriers to digitization in university libraries of Pakistan: A developing country's perspective. *The Electronic Library*, *36*(3), 457–470. doi:10.1108/EL-01-2017-0012

Rafiq, M., Batool, S. H., Ali, A. F., & Ullah, M. (2021). University libraries response to COVID-19 pandemic: A developing country perspective. *Journal of Academic Librarianship*, *47*(1), 1–10. doi:10.1016/j.acalib.2020.102280

Robert Gordon University Library. (2020). *Resources related to the COVID-19 outbreak.* https://library.rgu.ac.uk/covi19-resources

Shonhe, L. (2017). A literature review of information dissemination techniques in the 21st century era. *Library Philosophy and Practice (e-Journal)*, 1731. https:// digitalcommons.unl.edu/libphilprac/1731

Sweeney, L. (2020). *Cultural organisations and COVID-19: documenting virtual engagement strategies.* https://sr.ithaka.org/blog/cultural-organisations-covid-19/

Tolppanen, B. P. (2021). A survey of response of access services in academic libraries to COVID-19. *Journal of Access Services*, *18*(2), 65–76. doi:10.10 80/15367967.2021.1871619

Tsekea, S., & Chigwada, J. P. (2020). COVID-19: Strategies for positioning the university library in support of e-learning. *Digital Library Perspectives*, *37*(1), 54–64. doi:10.1108/DLP-06-2020-0058

Wang, T., & Lund, B. D. (2020). *Announcement information provided by United States' public libraries during the 2020 COVID-19 pandemic.* Preprint. doi:10.1080/01616846.2020.1764325

Xia, L., & Qiao, S. (2020). *How Wuhan University Library copes with COVID-19 pandemic: a case study.* https://www.library.cornell.edu/default/files

Zhou, J. (2021, March). The role of libraries in distance learning during COVID-19. *Information Development*, 1–12. doi:10.1177/026666669211001502

KEY TERMS AND DEFINITIONS

Academic Library: It is a resource centre that services institutions of higher learning such as a college or a university.

Conservation: It is the process of preventing the wasteful usage of resources.

Delta Variant: It is a variant of the COVID-19 virus which is a new strain that emerged due to a mutation in the virus's genetic structure.

Digital Libraries: It is a collection of electronic documents which are available on the internet or intranet where users can access articles, books, videos, or sound files.

Infodemic: It is regarded as an excessive amount of information about a problem that is not reliable, spread rapidly and makes it difficult to achieve a solution.

Library and Information Professionals: It is the people who are responsible for collecting, recording, organising, storing, preserving, retrieving, and disseminating information resources in the print and electronic environment.

Online Learning: It is an internet-based learning environment where students can access their learning materials online at any place and any time.

Open Educational Resources: These are teaching and learning materials that are either in the public domain or are released under a license that allows them to be freely used, changed, or shared.

Preservation: It is the process or act of keeping something valued free from damage.

Virtual Services: There are online and digital services that are offered to patrons who are not physically available at a library.

Chapter 12

Information and Digital Literacy in the New Normal:
Dealing With Fake News and Misinformation in Institutions of Higher Learning

ABSTRACT

The COVID-19 pandemic led to the spread of fake news, false information popularly known as misinformation which has created fear and panic among the people. This has been coupled with a lot of conspiracy theories that were promulgated by people in terms of how the disease is acquired, how it spreads, and how it is cured. The chapter documents the role of academic librarians in dealing with fake news and misinformation in institutions of higher learning. A multiple case study of three institutions was done to study what has been done to deal with fake news in this pandemic period. Document analysis and participant observation were used to collect data that was analysed using content analysis. It was noted that institutions of higher learning had been instrumental in offering information and digital literacy skills training to impart knowledge and skills on how to evaluate information sources. It is recommended that librarians should continuously upskill themselves to be able to gain the knowledge and skills that are needed.

INTRODUCTION

The COVID-19 pandemic greatly affected the information environment and there has been a need to provide and distribute reliable information to help curb the spread of the virus. Librarians tried to respond to the prevalence of fake news termed the infodemic through offering information and digital literacy training to library users and the community as a way of avoiding misinformation and disinformation (Lor, Wiles, & Britz, 2021). There is need for library and information professionals to be proactive in service provision so as to educate the general populace on the dangers of spreading fake news and the consequences of the conspiracy theories that are being circulated during this COVID-19 pandemic era. Librarians should ensure the safety of consumers of information especially on various social media platforms and encourage open knowledge as well as social justice during this pandemic era. In order for the librarians to be able to offer such services, there is need for institutional support to provide digital technologies and high speed internet which is needed to train the various patrons and communities in dealing with fake news. Conspiracy theories caused mistrust and uncertainty around COVID-19 and a lot of fake news was spread through Twitter in the beginning of the pandemic when the responsible authorities and governing bodies were working on possible courses of action (Ahmed et al., 2020; Jamieson & Albarracin, 2020; Mitchell et al., 2020; Mitchell & Oliphant, 2020). Some of the information that is spread using social media might appear to be credible but would later prove to be fabricated and false and by that time, it might have caused irreversible damage (Yakubu, Haruna & Liman, 2021). It is against this background that the chapter seeks to document the role of the library during pandemic times, how institutions of higher learning are dealing with fake news and misinformation through information and digital literacy training, and the challenges that are faced by institutions of higher learning in offering information and digital literacy training sessions to patrons and other community members as part of community engagement and extension services.

Statement of the Problem

The COVID-19 pandemic led to the proliferation of false and misleading information compromising the ability to access information and this have led to the generation of undue panic among the people as well as putting their

lives at risk (United Nations Educational, Scientific and Cultural Organization, 2020). Information is now available in abundance on social media and this proves difficult for individuals to check the authenticity of such information and people are not able to differentiate facts, opinions, propaganda and biases (Naeem and Bhatti, 2020). The spread of fake news especially on how the COVID-19 pandemic can be cured led to some loss of life since people ended up doing any home remedies that they came across as a way of combating the spread of the virus. There are a lot of misinformation, disinformation and conspiracy theories about the source, prevention, diagnosis and treatment of the disease (Durodolu, Chisita & Dube, 2021). Hollowood & Mostrous (2020) pointed out that in Italy in March 2020 there was an average of 46 00 new posts everyday on Twitter which were linked to misleading information about the pandemic. Librarians had to fight the spreading of fake news and health sciences librarians and information professionals should be instrumental in dealing with this infodemic (Naeem & Bhatti, 2020). There is need for the people to access reliable information and eliminate destructive content which is spread via different social media platforms (Durodolu, Ibenne & Dube, 2021).

The Role of the Library in Times of Crisis

Libraries are regarded as support systems in times of crisis as they support the communities in so many ways. Banks (2016) and Dempsey (2017) pointed out that librarians are the best line of defense in dealing with fake news since they are information professionals and educators who have knowledge and skills of identifying fake news. They play an active role in nurturing information literate individuals who are able to evaluate information sources since there is no guarantee that any source of information is true. Readers should be able to interrogate information sources to know the difference between real and fake news. It is the duty of the librarian to ensure that patrons who ask for help can get information that is accurate to answer their information needs. During times of crisis and pandemic times, the lives of people are endangered and the pandemic can spread if people are not assisted by librarians. It is important to manage information effectively and during pandemic times, how information is handled is important as it can lead to positive outcomes in the fight against the pandemic.

The recent explosion of unverified information especially on social media had been worrisome. Librarians at Indiana University East had developed

libguides to help their patrons to identify fake news (Banks, 2016). Librarians have developed tools to help students and library users through one-shot information literacy instruction workshops and Batchelor (2017) added that the University of Michigan introduced a one shot credit course called Fake news, lies, and Propaganda: how to sort fact from fiction. Most users see the library as the place to run to for them to get reliable information. However, the covid-19 pandemic led to the closure of the physical libraries as a way of avoiding the spreading of the virus and putting in place social distance measures to ensure the safety of both the patrons and the library staff during the pandemic period. Libraries therefore were mandated to continue offering services and most of them put up web pages that provided regular updates and fact checked information with regard to the covid-19 pandemic (International Federation of Library Associations and Institutions, 2020).

Librarians have a long-standing role in the promotion and teaching of media and information literacy and can assist in helping the patrons to spot fake news during the covid-19 pandemic period (Yakubu, Haruna & Liman, 2021). Librarians have the knowledge, skills and experiences in fighting against fake news and libraries had been helping their patrons to develop critical thinking and problem solving skills through the information and digital literacy concepts so that they are able to look for the correct information especially on the internet and be able to evaluate the information to distinguish correct from wrong information. However, this was mainly for students in institutions of higher learning although there were other school librarians that were teaching these concepts. However, in such a time like this where there are pandemics, there is need for everyone to possess such skills in order to deal with misinformation and spot fake news. The African Library and Information Associations and Institutions believes that librarians should be proactive in dealing with fake news, misinformation and disinformation, at the same time they should disseminate the correct, reliable, and relevant information so as to help people manoeuvre through the pandemic times (Yakubu, Haruna & Liman, 2021; Analytica, 2020; Azim et al., 2020; Earnshaw & Katz, 2020).

As a way of assisting people to deal with fake news, IFLA developed an updated version of the "how to spot fake news" infographic where they focused more on the use of social media in circulating information and emphasised the need to check the source of the message for authenticity as shown in figure 1 (International Federation of Library Associations and Institutions, 2020). This handout helps with engaging images that can be used to spot fake news and directs users to ask the librarian for assistance when they are not sure about what they would be reading. There is an 8-step process that was develop

244

to identify fake news which involve consider the source, check the author, check the date, check your biases, read beyond, seek supporting sources, ask if it is a joke, and ask the experts. This information will help every user when looking for information and can easily evaluate any information source.

The African Library and Information Associations and Institutions (AFLIA) indicated that covid-19 pandemic information is available everywhere and as the pandemic spreads, the information is also growing and there are different conspiracy theories about the spread, cure, and statistics about the virus (African Library and Information Associations and Institutions, 2021). The United Nations Educational, Scientific and Cultural Organisation (UNESCO) created a meme on the five laws of media and information literacy which can be utilised by library and information professionals to assist patrons (Ireland, 2018) in dealing with fake news.

Fake News and Misinformation

Fake news is regarded as stories that are false, fabricated, and with no verifiable facts, sources or quotes (University of Michigan Library, 2021). Fake news comes from pure fake news sites that use fabricated stories to attract traffic and encourage clicks, influence or profit using deceptive information. Hoax sites also share information with the intention to trick readers, and some edited images can misrepresent visual reality. During the COVID-19 pandemic period, fake news is the incorrect information as well as stories that are circulated about how people can contract the virus and what they can do to treat it in a way to create distrust and divisions among the people. This has a danger of limiting and reducing the success of the efforts that are done by the stakeholders in the medical field and information professionals to stop the spread of the virus (International Federation of Library Associations and Institutions, 2020).

Misinformation is regarded as false, inaccurate or misleading information that is communicated regardless of an intention to deceive, for example, false rumours, insults, and pranks (Merriam-Webster, 2021). The UN Secretary General Antonio Guterres pointed out that there is need to fight against the virus as well as misinformation when he said the common enemy is not just the virus but "the growing surge of misinformation thus we need to urgently promote facts and science, hope and solidarity over despair and division" (Lederer, 2020). It has been noted that misinformation survives when there is a high illiteracy rate and when people are not able to understand and evaluate

Figure 1. How to spot fake news (Source: IFLA, 2020)

246

information and its sources (African Library and Information Associations and Institutions, 2021).

The dangers of misinformation lie in giving false hopes and causing fear among the people and weakening scientifically verified conduits that reduce the spread of the virus. The proper information that should be followed include social distancing, staying at home, proper handwashing, and the use of hand sanitisers as well as sanitising the work environments. As a way of dealing with misinformation, the World Health Organisation (WHO) is actively helping in offering trainings about the pandemic and giving guidelines on dealing with the COVID-19 pandemic, providing test kits as well as countering disinformation through call centres to inform the public about the pandemic and what they are supposed to do (African Library and Information Associations and Institutions, 2021).

Dealing with Fake News

The infodemic according to the International Federation of Library Associations and Institutions (IFLA) is defined as the misleading information that is spreading around the world (International Federation of Library Associations and Institutions, 2020). It is regarded as an over-abundance of information where some are accurate while the majority of the information is not correct and that makes it hard for people to find trustworthy sources and reliable guidance when it is needed (Carvin & Brookie, 2020). People around the world had been taught on what to do and what not to do during the pandemic times to ensure that they are protected from fake news. This is one of the ways of combating the pandemic whereby people are encouraged to change their behaviour in spreading and accepting fake news.

A lot of misleading information had been spreading throughout the African content as more numbers of new cases and death are experienced. The British Broadcasting Corporation (BBC) pointed out some of the information as (British Broadcasting Corporation, 2020):

1. Inhaling very hot steam is an effective treatment against covid-19. This is regarded as very dangerous health wise. This is one of the traditional cures of coronavirus which has been encouraged by some people. It has been noted that high temperatures are used for industrial cleaning in hospitals but inhaling steam at high temperatures would be extremely dangerous to the human body. A specialist in the spread of infectious diseases at the University of Nottingham in the United Kingdom indicated

that if hot steam gets inside your body in an attempt to kill the virus, the lungs would be irreparably damaged.
2.	Consuming alcohol would protect against covid-19. Some people were including alcohol in food supplies for vulnerable people saying that it would serve as throat sanitisers in killing the coronavirus. These people had misinterpreted the World Health Organisation advice which refers to the efficacy of alcohol based gel in cleaning the hands. It has been noted that alcohol consumption is likely to increase the health risks of a person who become infected by the coronavirus.
3.	Blue masks are contaminated by the virus. Some posts on Facebook were discouraging people from wearing blue face masks claiming that these masks were contaminated with toxins since they were manufactured in America and Europe.

Naeem & Bhatti (2020), Government of Pakistan (2020), and World Health Organisation (2020) documented the commonly spread myths during the COVID-19 pandemic. These are:

●	Drinking alcohol protect you against COVID-19.
●	Spraying alcohol or chlorine all over your body kill the new coronavirus.
●	Eating garlic helps prevent infection with the new coronavirus.
●	COVID-19 virus cannot be transmitted in areas with hot and humid climates.
●	Cold weather and snow kill the new coronavirus.
●	Taking a hot bath prevent the new coronavirus disease.
●	The new coronavirus can be transmitted through mosquito bites.
●	Hand dryers are effective in killing the new coronavirus.
●	Ultraviolent disinfection lamps kill the new coronavirus.
●	Mosquito bites can transmit the virus.
●	Chloroquine is a proven cure.
●	5G caused the pandemic.

These are some of the false information that were spread in a bid to misinform people about the COVID-19 pandemic. This shows that the war is not just about fighting the disease but also fighting against the spreading of false information which can negatively affect those who consume such.

It has been stated that the reader of information is the one that makes reliability decisions of an information source (Valenza, 2016). This shows that readers should be news literate and be able to discern the truth from what

248

is being stated by an information source. News literacy is regarded as "the ability to use critical thinking skills to judge the reliability and credibility of news reports, whether they come via print, television or the internet" (Stony Brook University, 2021). It is important for patrons to be able to determine the trustworthiness of information shared on social media platforms such as Twitter, Facebook, WhatsApp, Instagram among others. This can be done through verifying the tweets, taking note of advertisements on news websites, be in a position to evaluate comments in a newspaper, verify Facebook accounts, verify a claim if an issue is controversial, and be able to evaluate information that is available on the internet (Valenza, 2016). Hernandez (2018) and Stein-Smith (2017) pointed out that libraries developed guides to help students, the faculty and also the general public to recognise fake news. It is important to apply some rules of thumb when dealing with all the types of information. The following can be helpful especially in this covid-19 pandemic era:

- Check the about page if it is an internet site to get the information about the author so as to consider their credentials and see if they are knowledgeable in the subject they are writing about.
- Interrogate the uniform resource locators (URLs) since some sites manipulate the domain name to deceive the readers.
- Suspect information that is sensational such as exaggerated and provocative headlines with emotional language.
- Go back to the main source of information if the article mentions a study to verify if the information is true.
- Triangulate to verify the information in multiple sources including the use of traditional media and library databases.
- Hoaxes can be ruled out by using sites such as FactCheck.org, Snopes (www.snopes.com), PolitiFact (www.politifact.com) and Hoax-slayer.
- Stop before you forward something you are not sure of especially posts that are widely shared or forwarded. It is important to verify the information first before sharing (Jeffries et al., 2017).

It is encouraged that users should apply triangulation to determine the authenticity of specific stories, that is, verifying a story by finding other two reliable sources that report the same story (Ireland, 2018). As a result, librarians and users should apply the criteria for evaluating information sources when working with every information source. The reliability of the publisher or author of the news together with the reliability of the source should be taken into consideration when evaluating a news item.

Information Disorder

Information disorder is a term that was coined by First Draft News to encompass the spectrum of misinformation, malinformation and disinformation (Cotton, 2020). Misinformation is regarded as false content that the person sharing doesn't realise is false or misleading. Malinformation is genuine information shared with an intent to cause harm. Disinformation is shared content that is intentionally false and or misleading and designed to cause harm. The First Draft News (2020) and Wardle & Derakhshan (2017) pointed out the seven types of misinformation and disinformation which are:

a) Fabricated content, that is, new content that is 100% false that is designed to deceive and do harm.
b) Manipulated content, that is, when genuine information or imagery is manipulated to deceive.
c) Imposter content, that is, when genuine sources are impersonated.
d) False content, that is, when genuine content is shared with false contextual information.
e) Misleading content, that is, misleading use of information to frame an issue or individual.
f) False connection, that is, when headlines, visuals or captions don't support the content.
g) Satire or parody, that is, no intention to cause harm but has potential to fool.

Information and Digital Literacy

The presence of fake news presented an opportunity for libraries in institutions of higher learning to show their worth since there is a great need for information literacy and all the other literacies that are associated with it such as media literacy, digital literacy among others (Eva & Shea 2018). Lor, Wiles & Britz (2021) added that this shows that librarians are as important as they were before and their importance is increasing since there is information overload and the spreading of fake news during the COVID-19 pandemic period. Information literacy is regarded as the "ability to know when there is a need for information, to be able to identify, locate, evaluate and effectively and responsibly use and share that information for the problem at hand" (Rhodes, 2010). The Association of College and Research Libraries (2000)

250

defines information literacy as the set of integrated abilities encompassing the reflective discovery of information, the understanding of how information is produced and valued, and the use of information in creating new knowledge and participating ethically in communities of learning.

Librarians are using various innovative approaches to teach information literacy by focusing on the use social media, hands on practical skills, critical thinking skills, problem solving skills and user-centred research (Aharony et al., 2017; Johnson & Ewbank, 2018; LaPierre & Kitzie, 2019; Mooney, Oehrli, & Desai, 2018). It was noted that librarians have the capacity to lead readers to better sources of information in a politically and digitally polarised environment and they can easily advocate for the development of digital citizenship (Copenhaver, 2018). Through the teaching of information and digital literacy, librarians would be responsible for leading the charge towards imparting critical thinking and problem solving skills among the learners in an open knowledge society. These skills are very important in dealing with fake news in the COVID-19 pandemic era since readers would be able to evaluate various sources of information before using them and passing on to other readers (Neely-Sardon & Tignor, 2018; Rose-Wiles, 2018; Rush, 2018). It is therefore imperative for academic librarians to champion information and digital literacy initiatives in institutions of higher learning to impart these skills to learners.

It was noted by Ireland (2018) that library users lack the necessary skills that are needed to discern what is real news from fake news since most of them obtain their information from social media. This is because fake news is now more accessible and people tend to believe it at face value as it contains attention grabbing headlines. Therefore, librarians are supposed to be creative in delivering information and digital literacy training sessions that would also capture the attention of the people. It was noted that fake news is mostly spread by the use of memes which are jokes or memorable piece of content that can easily be spread on the internet in the form of photography or short videos (McCrae, 2017). As a result, librarians should also create their own memes to use during information and digital literacy training to equip patrons on how to spot and deal with fake news in this pandemic period. This would make the information easier to digest and memorise as the information compete for limited resources which are bandwidth and the brain time (Gleick, 2011). There is need to involve all the stakeholders that are involved in teaching and learning to be able to curb the spread of fake news in institutions of higher learning (Clough & Closier, 2018).

Challenges Faced

Ebijuwa, Oyelude, Abubakar, Nongo, & Sani (2021) noted that the major challenge of dealing with fake news in the COVID-19 pandemic is how to determine which is fake news and which is real news. It has been stated that fake news spread faster and easily and is dangerous (Patel, 2020). Vanderslott (2020) added that some fake news contains some traces of truth and correct information leading to challenges in spotting true and accurate news. It was also noted that some people who spread fake news are those that are trusted by the users such as nurses and doctors, trusted family and friends. People always trust the information that come from the individuals that they know leading to difficulties in dealing with fake news.

Librarians noted that evaluating information sources is a complex skill which is not possessed by many patrons. Some just use any information they come across without verifying its authenticity. There is need to use sources critically in order to distinguish correct from wrong information so as to be able to deal with fake news (Yakubu, Haruna, & Liman, 2021). In order to possess such skills there is need for training for both the librarians and the library patrons. As a result, librarians should continuously develop themselves to move along with the trending issues in information and digital literacy.

News and media literacy is considered as an optional topic in most library schools although this is a core skill which should be possessed by everyone. In schools and colleges where information and digital literacy are taught, librarians face some difficulties in getting slots to teach the students. Just a few institutions of higher learning have managed to offer the course as a stand-alone course or as part of university wide courses that are offered to all the part one students such as communication skills or introduction to information technology. Institutions of higher learning should be intentional in offering information and digital literacy skills among the students and lecturers to be able to deal with the challenge of fake news and misinformation.

People tend to believe information that is inclined to their emotions and personal beliefs as compared to factual and objective information (Maoret, 2017) which is a major global risk to public health. During the covid-19 pandemic, libraries were closed and librarians were supposed to work from home. There are a number of challenges that were faced by librarians in trying to offer information and digital literacy skills training. These include lack of internet connectivity since data was not provided by some institutions, failure to update their websites since some of the people from the information

technology department were not cooperative and librarians did not possess the skills needed in website development and maintenance.

Methodology

The study adopted a qualitative methodology whereby a multiple case study of three institutions of higher learning in Zimbabwe was done. Document analysis was done to check how the institutions are dealing with fake news in the COVID-19 pandemic and whether information and digital literacy is offered to patrons. Participant observation was also used on how the information and digital literacy component is handled in these three institutions of higher learning. The challenges being experienced by these institutions of higher learning were also noted during data collection. The data was analysed using content analysis and thematically presented according to the objectives of the study.

RESULTS AND DISCUSSION

It was observed that all the three institutions were greatly affected by the impact of COVID-19 pandemic when physical buildings were closed and students were supposed to learn online. Although all the three institutions offer information and digital literacy skills training as stated by Eva & Shea (2018) and Lor, Wiles & Britz (2021), the level of depth was different since institution A was facing challenges in adopting the working from home policy due to lack of internet connectivity by library staff. The institution was not providing support in the form of data and the library staff were not able to sponsor themselves to be able to access and provide the digital information resources and services to the patrons. Institution B managed to develop some guide and put posters around the campus but were not able to update the website since they did not possess the skills needed to do so. This was a major drawback since users were mainly dependent on electronic information resources and digital services that were accessible via the website as they were not allowed to come on campus during the lockdown. Therefore, the impact of institution A and B in fighting fake news was low as they were not able to provide the access to digital content via the website. However, the librarians indicated that they utilised official library social media platforms to distribute the information they got from the Ministry of Health and Child

253

Care. Institution C got support from the institution in internet connectivity from home and they were able to provide digital services in combating fake news during the COVID-19 pandemic.

Institution A showed that the librarians did not possess the skills to develop the libguides and would provide training when lockdown measures are eased. Institution B indicated that although they developed some guides they were not able to upload them on the website because of lack of support from the webmaster. Institution C had developed guides that can be utilised by patrons to identify fake news including the guideline that was develop by the International Federation of Library Associations and Institutions. The librarians had been offering information and digital literacy to patrons online using video conferencing tools such as google meet, zoom and bigbluebutton. This is in support of what was stated by Hernandez (2018) and Stein-Smith (2017). The results showed that librarians from Institution C were proactive and they contributed immensely in the fight against fake news.

It was found that all the universities studies are using official social media platforms to fight fake news and also directing users to authentic sites such as the World Health Organisation, Ministry of Health as stated by Yakubu, Haruna & Liman (2021), Analytica, (2020), Azim et al. (2020), and Earnshaw & Katz (2020). This is done at different levels depending eith the skills, knowledge and infrastructure of the higher learning institution.

Resources with Authentic Information

LitCovid is a curated literature hub that tracks up to date scientific COVID-19 pandemic information (National Centre for Biotechnology Information, 2021). This hub provides access to articles in PubMed which are updated daily and categorised according to topic and geographical location. A bibliography is available where one can be downloaded to be used for reference management or processing with automated software. Text and data mining facility helps to download the text from LitCovid articles with automatic annotations by PubTator (National Centre for Biotechnology Information, 2021).

There are a number of tutorials that were developed by librarians in fighting against fake news to arm the students with the skills that are needed to critically evaluate sources. The tutorials include but are not limited to Austin Community College's evaluating information and fake news (Dollinger, 2017), libguides like the Indiana University East's Fake news (Indiana University East, 2021), and the University of Washington Libraries' evaluating

254

information: fake news libguides among others (University of Washington, 2021). The Meriam Library, California State University created a checklist for determining the reliability of an information source using the CRAAP test i.e. currency, relevance, authority, accuracy, and purpose. Other guidelines were created by Fairleigh Dickinson University, and University of Oregon (Naeem and Bhatti, 2020).

SOLUTIONS AND RECOMMENDATIONS

There is need for librarians to educate themselves so that they know about the pandemic, the preventive measures and what should be done by the people to protect themselves. This calls for the training and reskilling of librarians during pandemic times to ensure that they remain relevant and continue offering their services in the new normal. Librarians should be more knowledgeable about the covid-19 preventive measures to keep informing the public on social distancing, masking up, sanitising, avoiding large gatherings, among others. Information can also be packaged in local languages and showcased in pictures to assist those who are not able to read international languages so that everyone in the community benefits. Correct information can be obtained from the centre for disease control and the ministry of health websites and official social media platforms. Librarians can also subscribe to daily, weekly, and monthly newsletters in order to access current and relevant information about the covid-19 pandemic in the country. In Zimbabwe, for example, the Ministry of Health and Child Care website can be accessed at http://www.mohcc.gov.zw and the twitter handle is @MoHCCZim which can be followed by the users to get correct updates on the COVID-19 pandemic.

Librarians are encouraged to improve on the ways they sensitize the community on ways they can prevent the spread of COVID-19. If the librarians provide authentic information to the users, they will be able to differentiate fake from real information since they are able to trust the source of the information and news. This can be achieved through sharing information resources via the library website or a blog so that the users get more reliable and genuine information. Librarians can also participate in promotional activities by providing official electronic bulletins and encourage people to observe the COVID-19 regulations and protocols as prescribed by the World Health Organisation and the government through the Ministry of Health and Child Care.

Librarians should be proactive when working with fake news and offering information and digital literacy skills training. Librarians should create learning objects and embed them into the curriculum by partnering with various lecturers to ensure that all the students are knowledgeable about how to identify fake news. Librarians should also advocate for the formalisation of information and digital literacy skills training so that the unit is part of the university wide courses where all the students are supposed to do the course to be independent and lifelong learners who are able to identify fake news.

There is need to work together in creating or revising new curriculum so as to integrate information and digital literacy skills to support students' learning especially in this pandemic period when teaching and learning is entirely online. There is need to revise the curriculum in library and information science schools so as to incorporate information and digital literacy skills training. The course can be standalone since there is a lot to learn or it can be embedded within another course especially university wide courses such as introduction to information technology or communication skills.

Policies should be put in place that deal with those who deliberately spread fake news. People must be educated on these policies so that they know how to deal with such type of information if they come across such. Such policies would help in eliminating some of the challenges that are faced by librarians in offering information and digital literacy training as a way of dealing with the spreading of fake news.

CONCLUSION

It has been noted that it is difficult to stop the creation of fake news but librarians can assist users with skills of how to recognise it and then avoid the spreading of fake news. Librarians have a big role to play in identifying, creating and sharing memes that assist users to memorise how they can spot fake news and reduce the spreading of such news. Librarians are supposed to train users and impart information and digital literacy skills among the patrons to be able to avoid the spread of fake news. There are diverse ways of sensitizing the community that can be adopted by the librarians so as to provide authentic information and educate the users on the dangers of spreading news that they are not sure about. Although there are various challenges that can be met along the way in trying to offer information and digital literacy skills training, librarians should continue advocating for the program so as to educate users on fake news and contribute positively towards curbing the

spreading of fake news which can be detrimental to the lives of the people. Librarians are able to fill the gap and act as trusted sources of information to shield against misinformation, disinformation and the spreading of fake news in the digital era. It is important to train the librarians so that they are able to educate the users during information literacy programmes so that people are able to identify fake news.

REFERENCES

African Library and Information Associations and Institutions. (2021). *Misinformation on COVID-19: Call to action*. https://web.aflia.net/misinformation-on-covid-19-call-to-action/

Aharony, N., Limberg, L., Julien, H., Albright, K., Fourie, I., & Bronstein, J. (2017). Information Literacy in an Era of Information Uncertainty. *Proceedings of the Association for Information Science and Technology*, *54*(1), 528–531. doi:10.1002/pra2.2017.14505401063

Ahmed, W., Vidal Alanball, J., Downing, J., & Segui, F. L. (2020). Covid COVID-19 and the 5G Conspiracy Theory: Social Network Analysis of Twitter Data. *Journal of Medical Internet Research*, *22*(5), e19458. doi:10.2196/19458 PMID:32352383

American Library AssociationAssociation of College and Research Libraries. (2000). Framework of information Literacy Competency Standards for Higher Education. *College & Research Libraries News*, *61*(3), 207–215. doi:10.5860/crln.61.3.207

Banks, M. (2016). Fighting fake news: how libraries can lead the way on media literacy. *American Libraries Magazine*. https://americanlibrariesmagazine.org/2016/12/27/fighting-fake-news/

Batchelor, O. (2017). Getting out the truth: The role of libraries in the fight against fake news. *RSR. Reference Services Review*, *45*(2), 143–148. doi:10.1108/RSR-03-2017-0006

British Broadcasting Corporation. (2020). Coronavirus: what misinformation has spread in Africa? Reality Check Team. *British Broadcasting Corporation News.* https://www.bbc.com/news/world-africa-51710617

Carvin, A., & Brookie, G. (2020). Here's how to fight coronavirus misinformation. *The Atlantic*. https://www.theatlantic.com/ideas/archive/2020/03/heres-how-fight-coronavirus-misinformation/608914/

Clough, H., & Closier, A. (2018). Walking the talk: Using digital media to develop distance learners' digital citizenship at the Open University (UK). *The Reference Librarian*, *59*(3), 129–133. doi:10.1080/02763877.2018.1468848

Copenhaver, K. (2018). Fake news and digital literacy: The academic library's role in shaping digital citizenship. *The Reference Librarian*, *59*(3), 107. doi:10.1080/02763877.2018.1484412

Cotton, R. (2020). *Misinformation, disinformation, fake news: why do we care? Office of the Government Relations, Episcopal Church*. https://tinyurl.com/rut5kql

Dempsey, K. (2017). What's behind fake news and what you can do about it. *Information Today*, *34*(4), 6.

Dollinger, A. (2017, March 21). *Can librarians save us from fake news?* Vice. https://www.vice.com/en_us/article/pgwwgz/can-librarians-save-us-from-fake-news

Durodolu, O. O., Chisita, C. T., & Dube, T. V. (2021). Flattening the Curve of Fake News in the Epoch of Infodemic: An Epistemic Challenge. In R. Blankenship (Ed.), *Deep Fakes, Fake News, and Misinformation in Online Teaching and Learning Technologies* (pp. 143–161). IGI Global. doi:10.4018/978-1-7998-6474-5.ch007

Durodolu, O. O., Ibenne, S. K., & Dube, T. V. (2021). New mental costumes: Leveraging ACRL's value of information frame in dealing with infodemics in a post-truth era. *College & Research Libraries News*, *82*(4), 1–3. doi:10.5860/crln.82.4.175

Ebijuwa, A. S., Oyelude, A. A., Abubakar, A. M., Nongo, C. J., & Sani, A. H. (2021). Sensitisation and promotion of information literacy on COVID-19 pandemic by librarians in public university libraries in South-Western Nigeria. *Library Philosophy and Practice (e-journal)*. 5462. https://digitalcommons.unl.edu/libphilprac/5462

Eva, N., & Shea, E. (2018). Marketing libraries in an era of fake news. *Reference and User Services Quarterly*, *57*(3), 168–171. doi:10.5860/rusq.57.3.6599

258

First Draft News. (2020). *Seven types of mis- and disinformation.* https://firstdraftnews.org/latest/information-disorder-the-techniques-we-saw-in-2016-have-evolved

Gleick, J. (2011, May 1). *What defines a meme?* https://www.smithsonianmag.com/arts-culture/what-defines-a-meme-1904778/

Government of Pakistan. (2020). *National Command and Control Centre for COVID-19 in Pakistan.* http://covid.gov.pk/

Hernandez, C. (2018). *Fake News and Academic Librarians: A Hook for Introducing Undergraduate Students to Information Literacy. Information Literacy and Libraries in the Age of Fake News*, 167. https://publisher.abc-clio.com/ 9781440864193/

Hollowood, E., & Mostrous, A. (2020). *Fake news in the time of C-19.* https://members.tortoisemedia.com/2020/03/23/theinfodemicfakenewscoronavirus/content.html

Indiana University East. (2021). *Fake news home: how to identify and avoid fake news.* https://iue.libguides.com/Fakenews

International Federation of Library Associations and Institutions. (2020). *How to spot fake news at a time of COVID-19?* https://www.ifla.org/ES/node/93016

Ireland, S. (2018). Fake news alerts: Teaching news literacy skills in a meme world. *The Reference Librarian*, *59*(3), 122–128. doi:10.1080/02763877.2018.1463890

Jamieson, K. H., & Albarracin, D. (2020). The Relation between Media Consumption and Misinformation at the Outset of the SARS-CoV2 Pandemic in the US. *The Harvard Kennedy School of Misinformation Review*, *1*, 1–22.

Jeffries, S., Kroondyk, J., Paolini, F., & Radisauskas, C. (2017). Says who? Librarians tackle fake news. *College & Research Libraries News*, *78*(10), 538–545. doi:10.5860/crln.78.10.538

Johnson, S. T., & Ewbank, A. D. (2018). Heuristics: An Approach to Evaluating News Obtained through Social Media. *Knowledge Quest*, *47*(1), 8–14.

LaPierre, S. S., & Kitzie, V. (2019). Lots of Questions about Fake News: How Public Libraries Have Addressed Media Literacy, 2016-2018. *Public Library Quarterly*, *38*(4), 428–452. doi:10.1080/01616846.2019.1600391

Lederer, E. M. (2020). *UN Chief says misinformation about COVID-19 is new enemy.* https://abcnews.go.com/US/wireStory/chief-misinformation-covid-19-enemy-69850124

Lor, P., Wiles, B., & Britz, J. (2021). Re-thinking information ethics: Truth, conspiracy theories, and librarians in the COVID-19 era. *Libri*, *71*(1), 1–14. doi:10.1515/libri-2020-0158

Maoret, M. [TEDx Talks]. (2017). *The social construction of fats: Surviving a post-truth world* [Video File]. https://www.youtube.com/watch?v=7tHbSasnvno

McCrae, J. (2017). *Meme marketing: How brands are speaking a new consumer language.* https://www.forbes.com/sites/forbescommunicationscouncil/2017/05/08/mememarketinghow-brands-are-speaking-a-new-consumer-language/#15fa718137f5

Merriam-Webster. (2021). *Misinformation.* https://www.merriam-webster.com/dictionary/misinformation

Mitchell, A., Jurkowitz, M., & Baxter, J. O., & Shearer, L. (2020). *Americans Who Mainly Get Their News on Social Media are Less Engaged, Less Knowledgeable.* Pew Research Center. https://www.journalism.org/2020/07/30/americans-who-mainly-gettheir-news-on-social-media-are-less-engaged-lessknowledgeable/

Mitchell, A., & Oliphant, J. B. (2020). *Americans Immersed in COVID-19 News; Most Think Media are Doing Fairly Well Covering It.* Pew Research Center. https://www.journalism.org/2020/03/18/americans-immersed-in-covid-19-news-most-think-media-aredoing-fairly-well-covering-it/

Mooney, H., Oerhli, J. A., & Desai, S. (2018). Cultivating Students as Educated Citizens: The Role of Academic Libraries. In Information Literacy and Libraries in the Age of Fake News. In D. E. Agosto (Ed.), *Information literacy and libraries in the age of fake news* (pp. 136–150). Libraries Unlimited.

Naeem, S., & Bhatti, R. (2020). The COVID-19 infodemic: A new front for information professionals. *Health Information and Libraries Journal*, *37*(3), 2020. doi:10.1111/hir.12311 PMID:32533803

Neely-Sardon, A., & Tignor, M. (2018). Focus on Facts: A News and Information Literacy Instructional Program. *The Reference Librarian*, *59*(3), 108–121. doi:10.1080/02763877.2018.1468849

Patel, H. (2020). *Fake news about COVID-19 is spreading faster than virus*. https://wexnermedical.osu.edu/blog/fake-news-about-covid-19

Rhodes, T. (2010). *Assessing outcomes and improving achievement: Tips and tools for using rubrics*. Association of American Colleges and Universities.

Rose-Wiles, L. (2018). Reflections on Fake News, Librarians, and Undergraduate Research. *Reference and User Services Quarterly*, *57*(3), 200–204. doi:10.5860/rusq.57.3.6606

Rush, L. (2018). Examining Student Perceptions of Their Knowledge, Roles, and Power in the Information Cycle: Findings from a 'Fake News' Event. *Journal of Information Literacy*, *12*(2), 121–130. doi:10.11645/12.2.2484

Stein-Smith, K. (2017). Librarians, Information Literacy, and Fake News. *Strategic Library*, *37*, 1-13. https://www.libraryspot.net/SL/SL_Mar17_1.pdf

Stony Brook University. (2021). *Glossary: the language of news literacy.* Digital Resource Centre, Centre for news literacy. https://digitalresource.center/glossary-language-news-literacy

United Nations Educational, Scientific and Cultural Organization. (2020). *During this coronavirus pandemic, 'fake news' is putting lives at risk.* UNESCO. https://news.un.org/en/story/2020/04/1061592

University of Michigan Library. (2021). *Fake news, lies and propaganda: how to sort fact from fiction*. https://guides.lib.umich.edu/fakenews

University of Washington. (2021). *News: fake news research guides*. https://guides.lib.uw.edu/research/news

Valenza, J. (2016). Truth, truthiness, triangulation: a news literacy toolkit for a "post-truth" world. *School Library Journal*. https://blogs.slj.com/neverendingsearch/2016/11/26/truth-truthiness-triangulation-and-the-librarian-way-a-news-literacy-toolkit-for-a-post-truth-world/

Vanderslott, S. (2020). *Here are simple tips to help you avoid fake coronavirus news.* https://www.sciencealert.com/fake-coronavirus-news-is-everywhere-here-s-how-to-discern-the-facts-not-the-fiction

Wardle, C., & Derakhshan, H. (2017). Information disorder: Toward an interdisciplinary framework for research and policy making. Strasbourg Cedex: Council of Europe Report.

World Health Organization. (2020). *Coronavirus disease (COVID-19) advice for the public: Myth busters.* https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-forpublic/myth-busters

Yakubu, H., Haruna, B., & Liman, M. M. (2021). Conspiracy theories and Misinformation on COVID-19: The roles of Nigeria Academic Librarians. *International Journal of Innovation and Research in Educational Sciences*, *8*(3), 2349–5219.

About the Authors

Collence Takaingenhamo Chisita is a researcher, lecturer, author and editor at the Durban University of Technology in the Department of Information Systems. He has been working with different local and international organizations including LIASA, ZIMLA, LIAZ, AFLIA and IFLA. Currently he is a Secretary for the IFLA -Indigenous Matters section Chisita has presented papers at local and international conferences in Africa and abroad. Chisita has and continue to work with many universities inside and outside on matters relating to research, teaching and learning . He has collaborated with other researcher from the different IFLA Special interest groups on issues that affect libraries in the modern era. Chisita has written journal articles, book chapters and produced conference papers and participated and presented on webinars relating to topical issues on libraries and related institutions and the emerging technologies.

Alexander Madanha Rusero PhD, is a Research Fellow with the Institute for Pan African Thought and Conversation (IPATC), University of Johannesburg, South Africa. He is also a Senior Lecturer of International Relations, Politics and Journalism with 15 years university teaching experience, having taught at Harare Polytechnic's School of Journalism and Media Studies, Africa University's College of Social Sciences Theology, Humanities and Education as well as Great Zimbabwe University's Department of Politics and Public Management. Rusero is an author of 10 academic textbooks and more than 10 peer-reviewed book chapters and journal papers related to media, democracy and human rights, international relations and foreign policy, Media, Libraries and Archives as well as pan-Africanism and Decoloniality.

Ngoako Solomon Marutha, from remote rural village known as Ga-Sekgopo (Phukubjeni) in Limpopo Province of South Africa, is currently working as a Professor in the Department of Information Science at the

University of South Africa (UNISA). Prof Marutha serves in different university committees, including being a chairperson for Research and Innovation Committee. He also serves as a representative for UNISA department of Information Science in the International Council of Archives (ICA). He is a member of the South African Society of Archivists and serve in the National Executive committee. He is an editor for the Journal of the South African Society of Archivists. He is a Review Editor for Frontiers in Research Metrics and analytics journal. He presented several conference papers and published more articles. Prof Marutha also serve as external examiner for several universities in South Africa and also review articles for publication for several national and international journals. His research interest includes knowledge, archives and records management, especially on patients and hospital records, electronic records, cloud computing, Blockchain technology, enterprise content management, big data management and police case records security. The other field of his interest includes; library management and marketing as well as Open Distance electronic learning (ODeL). His professional industry background includes working as an information and records manager at Voortrekker hospital, South African Social Security Agency (SASSA), St. Rita's Hospital and Limpopo Provincial Department of Health. He also worked for the Council for Scientific and Industrial Research (CSIR), Palmer Development Group (PDG), and Vaal University of technology (VUT), Monash University and Limpopo Department of Sports, Arts and Culture as a Librarian. He holds Bachelor of Information studies and Bachelor of Information Studies honour from University of the North (UNIN)-now known as University of Limpopo (UL), Master of Information Science and Doctor of literature and philosophy from University of South Africa (UNISA).

Josiline Phiri Chigwada is the Deputy Librarian at Chinhoyi University of Technology where she teaches information and digital literacy skills. She is also a Part Time Lecturer at the Zimbabwe Open University in the Department of Information Science and Records Management. She has 15 years' experience in higher and tertiary education. She holds a doctorate in Information Science from the University of South Africa (UNISA), Master of Science Degree and Bachelor of Science Honours Degree in Library and Information Science from the National University of Science and Technology (NUST). She published 2 books, 17 book chapters, 10 journal articles, and 6 conference proceedings. She has presented in various national, regional and international conferences. She is a paid-up member of the Zimbabwe Library

Association (ZimLA), Library and Information Association of South Africa (LIASA), Association for Information Science and Technology (ASIS&T), Institute of Directors in Zimbabwe (IODZ), and Zimbabwe Academic and Non-fiction Authors Association (ZANA).

Oluwole Olumide Durodolu is a Research Fellow of the Department of Information Science at the University of South Africa. He holds a PhD in Library and Information Science from the University of Zululand in South Africa in 2016. A Certified Librarian of Nigeria and a member of the Association for Southern African Indexers and Bibliographers. Member Editorial Board, Maadili: Journal of African School of Governance and Policy Studies, South Africa, Covenant Journal of Library and Information Science and Member Editorial Board, Lagos Journal of Library and Information Science. He has published articles in local and international journals on information literacy, ICT4D, informetric, information communication technology, and more.

Index