

# RESEARCH AND DEVELOPMENT (R&D), CREATIVITY AND INNOVATION IN ACADEMIC LIBRARIES IN MALAWI: A WAY TO RETHINK LIBRARY DEVELOPMENT IN THE TWENTY-FIRST CENTURY

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**ABSTRACT:** *Noting the technological changes in the 21st century, academic libraries have been striving hard to remain competitive and relevant in their operations by providing transformative products, services and adopting best library practices to hype the whole process of service delivery. University libraries in the millennium age must meet the needs of a contemporary and pluralistic society with some sort of agility. In a technologically driven environment, library research and development, creativity and innovation are catchwords and they have been essential elements in restructuring library products and services for effective service delivery and best customer experience. This study explored the significance of R&D, creativity and innovation in twenty-first century librarianship at the University of Livingstonia (UNILIA). A descriptive survey was adopted for the study while a questionnaire was used as a data collection instrument. Findings revealed that at UNILIA libraries, innovative products and services mainly include Information and Communication and Technologies (ICT) based services (internet, emails, library 2.0. social media platforms); and electronic catalogues and portals. It was also discovered that with R&D, creativity and innovation, UNILIA libraries are able to adapt the rapidly technological changing environment, and improve existing products and services while at the same time exploiting new opportunities and trends in the library and information science. Major issues obstructing the pursuit of library R&D, creativity and innovation in UNILIA libraries include lack of research and innovation policies, lack of a well-established research and innovation centre, unpredictable changes in the 21st century technological landscape, and university culture that doesn't support research and innovation.*

**KEYWORDS:** *research & development, innovation, academic libraries, UNILIA, Malawi.*

## INTRODUCTION

In the millennial age, libraries must remain relevant to their twenty-first century users in the way they deliver information products and services. New changes in the information service industry as a result of novel information technologies have put libraries under siege, as to whether they will continue to exist or else succumb to the forces of these novel technologies, and fail to thrive and adapt. What can libraries do to remain relevant to their users in the twenty-first century environment is increasingly becoming a puzzling question to library managers of the twenty-first century. However, when one considers the evidence of advancing technology, educational reforms, societal changes, information literate users, and globalisation of 'everything' and their impact on librarianship and libraries, it is crystal clear that twenty-first century librarianship must be drastically different from all previous concepts of librarianship. It requires a professional who embraces the potential of technology, creatively finds appropriate ways to implement it into library services, and one who has more diverse, even 'unconventional', skills than ever before Matthews (2011, 3). For higher education institutions to survive and thrive in the future, libraries must change and adapt to a rapidly evolving external environment Jantz (2017). Library Research and Development (R&D) and innovation are the catchwords in modern academic librarianship. The digital environment has impacted on academic libraries and caused countless transformations in library products, services and practices Emezie (2018). According to Deiss

and Petrowski (2009), academic libraries are affected by three drivers of change: the poor economy and its negative impact on higher education; the changing needs of students; and rapidly evolving technologies.

Moreover, in the field of higher education, the library environment is experiencing a shift in the way information is disseminated to students, faculties and research scholars for the growth of universities. Academic libraries are moving from a physical place where basic traditional services of acquisition, storage, preservation, retrieval, access and display are provided to on-site library patrons; to an electronic space where these same services have been enhanced by technological innovations Muthu, Rameshbabu, and Baskarani (2015). New forms of technology have necessitated the change in approach in the way libraries deliver their services to user communities. More innovative products, services and practices are being coined in academic librarianship. Consequently, vast amounts of digital information are now available via the web in any computer with an Internet connection, anytime, and this places a huge impact on libraries. As such, more users have stopped requiring a library to get information. The development of online services and the availability of digital content is the answer to this shift Carvalho (2014).

Worth noting, in the era of digital revolution, library R&D and innovation are strategies that have allowed libraries to develop and survive in a context of changes, of which many of them are disruptive in nature. Through innovation, libraries have found a way to subsist the technological militants through the introduction of user catching library services such as online catalogues and portals, open access repositories, search engines and Web 2.0 technologies among the few Colaklar (2014). Furthermore, the development of online reference services, online databases, technological advances in library instructions, and hybrid automated system are services which should be acknowledged as innovative changes in academic libraries Ilako and Ikoja-Odongo (2011). Innovative products, services and practices in academic libraries help in effective and efficient service delivery of information services to meet users' needs and expectations in universities.

Academic libraries are facing times of unprecedented challenges and unparalleled change. Innovation has moved from a consideration to a necessity Curty (2015). And yet, libraries continue to operate in a climate of declining budgets and increasing costs. In such a resource-scarce environment, academic library leaders are under pressure to make wise decisions in regard to how innovations are adopted and implemented in their libraries. While at the same time, Jantz (2012) noted that the libraries condition in the modern university is one embedded in a state bureaucracy, complicated by union contracts, faculty norms and traditions. The academic libraries inherit many of these characteristics from their parent institutions. Most libraries have significant external controls, both administratively and financially, which can limit innovation. Budd (1998, 3) notes that each academic library is part of a larger organisation and, ultimately, authority rests outside of the library.

## **CONTEXT OF STUDY**

The University of Livingstonia (UNILIA) was established on August 27, 2003 as a Christian private university in Malawi (UNILIA) (2019). The Synod of Livingstonia believes that the Christian University provides an exceptional education for the young people of Malawi. The mission statement of the university is "To educate and inspire learners, guided by Christian values, to become principled leaders who will transform society through excellence in teaching, research, consultancy, and learning environment for the glory of God" UNILIA-Strategic Plan (2012). To date, the University of Livingstonia has four faculties offering various certificates, diplomas and undergraduate degree programmes UNILIA (2019). The University has two libraries situated at the Laws Campus and the other one at Ekwendeni Campus and it has a collection of over 25,000 volumes of books and subscribes to more than 1000 electronic journals and databases. UNILIA libraries provides traditional lending and circulation services, reference services, current awareness services, readers' services, Inter-library loan services, internet services and e-resources services Malanga and Jorosi (2018). In addition, UNILIA libraries also provide internet-enabled services mainly in the form of digital libraries and archives to their users to align with the changes in the information explosion era UNILIA (2019).

## PROBLEM STATEMENT

Noting the technological changes in the twenty-first century, academic libraries have been striving hard to remain competitive and relevant in their operations by providing transformative products, services and adopting best library practices to hype the whole process of service delivery. University libraries in the millennium age must meet the needs of a contemporary and pluralistic society with some sort of agility. As such, Library Research and Development (R&D), creativity and innovation have been essential elements in restructuring library products and services in response to the technological environment in which academic libraries are operating. While other libraries stay abreast with the latest trends with library R&D, creativity and innovation, some academic libraries still practice old librarianship due to some issues relating to organisational culture. At the University of Livingstonia (UNILIA), despite the fact that the information industry is being challenged technologically, the practice of R&D, creativity and innovation is still at its infancy stage due to some prevailing issues such as constrained financial budgets to spearhead library innovation, lack of innovation policy at the university, lack of support from the top management and lack of a well-established R&D centre. In Malawi, particularly in the higher education libraries landscape, there is no empirical study that has ever been championed on library R&D, creativity and innovation. Against this background, this study addresses this gap through the following objectives:

- To identify innovative and creative products, services and practices in UNILIA libraries;
- To find out the significance of R&D, creativity and innovation in UNILIA libraries; and
- To establish the challenges that library professionals face in pursuit of R&D, creativity and innovation in UNILIA libraries.

## LITERATURE REVIEW

### *Research and development, creativity and innovation and academic libraries*

The era of information explosion and emerging information and communication technologies has changed the higher education landscape worldwide. Academic libraries are equally affected by the information technological changes, and in order to survive this threat, higher education institutions are adopting various forms of technologies to aid libraries to deliver information services more efficiently to their user communities. Carvalho (2014) stresses that libraries are indeed at the edge of a very deep change. Until some years ago, libraries were sought to get content, to study, and to meet other people. However, due to technological transformations, modern libraries have embarked on research and development including innovation processes. Innovation and transformation are important concepts in today's libraries especially in light of the libraries' ongoing transition from acquiring serials in print to providing access electronically, thus moving towards the virtual library Carr (2009).

Concepts of R&D and innovation cut across a number of disciplines including Library and Information Science (LIS), and these concepts are closely linked to scientific discoveries of all times. Research and development is defined as "creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications" Hall (2006, 5). R&D is generally thought to consist of three main activities: basic research, applied research, and development. In the library set up, R&D could entail all the activities undertaken by librarians to create new or improved products, services and processes to meet user expectations and demands.

On the other hand, innovation is generally defined as a change towards renovation or adoption of something new and useful in the practice Gunjal (2017). In other words, innovation entails the synthesis of new ideas and thoughts which will re-construct or re-combine present things, and it is an inner feature of humans Colaklar (2014). In LIS, innovation is a complex process of creation, distribution and usage of novelties in order to enable library development as a social institute and enhancement of library performance. Library

innovation is a system of new ideas proposed by creatively thinking professionals or by a team Muthu, Rameshbabu, and Baskaran (2015). There are three key reasons why libraries should innovate; the need to adapt to a changing environment; the need to improve existing products and services and the need to make use of new opportunities Elves (2015). Also, worth noting is that in academic libraries, some innovations are disruptive while others are sustaining innovations. Specifically, Calvalho (2014) echoed that the most important disruptive innovations in academic libraries identified were the open access movement and the Web 2.0, and the first was highly regarded and was considered the most important innovation with impact in academic libraries.

### ***Innovative products, services and practices in academic libraries***

The practice of R&D, creativity and innovation in academic libraries is heightened by the superfluity of information and communication technologies. Many of the revolutionised services in libraries often come as a response to the technological shakeups in the twenty-first century. Li (2006) emphasises that present and future academic libraries should continue to redefine their roles in the digital environment, and there is a growing need for academic libraries to leverage their strengths and be innovative to create responsive and convenient services to users. In general, innovative library products and services include ICT based services (use of internet, email, online information literacy trainings, Ask a librarian, virtual reference); digital archives and e-libraries Muthu, Rameshbabu, and Baskaran (2015); mobile services in libraries (Short Messages Services to users, Global Position Point (GPS) to locate remote libraries, Web OPAC on mobile phones, subscription to RSS feeds on mobile phone applications and software); and information and communication innovations (Digital resources, electronic catalogues, online electronic document delivery form, online interlibrary borrowing form, online reference form, Online resources, accessible 7/24, a different type of communication: e-mail, Skype, Facebook, virtual reference services: ask a librarian, e-publications).

### ***Significance of research and development, creativity and innovation in academic libraries***

Innovate! Or cease to exist. Academic libraries are at the crossroads, as such innovation results when librarians come up with ideas which are applied in order to further satisfy the needs and expectations of the twenty-first century users (Yeh and Walter 2016). According to Carvalho (2014), innovation is a strategy that has allowed organisations to survive in a context of changes, many of them that are disruptive in nature. In the library context, R&D, creativity and innovation breeds new library products, services and practices that can transcend both time and distance, and that can best meet the needs of tech-savvy users. Elves (2015) notes that libraries should engage in research and development, be creative and innovative, to adapt to the rapidly technological changing environment. Two areas of change directly affecting libraries are: the move to digital, which is now almost complete for journals but still has some way to go for books; and the changing way our users search for information, meaning that the traditional OPAC and even local discovery systems are becoming less relevant. Secondly, is to improve existing products and services, and thirdly to make use of new opportunities and trends in the LIS profession. Above all, research, innovation and creativity in library and information services are aimed at achieving sustainable development of the information provision and professionals because of the attributes to the intellectual, inspirational, and physical development of man which helps him to overcome challenges in his search for scholarly activities, knowledge and development Atata, Oji, and Tom (2014).

## **Challenges library professionals face in pursuit of library R&D, creativity and innovation**

Academic libraries face the daunting challenge of innovating in the face of static and declining budgets and a shifting and unpredictable technological landscape in the twenty-first century Brundy (2015). The inability of academic libraries to innovate mostly is being perpetrated by organisational culture Jantz (2015). Library culture perpetuates some of the more restrictive aspects embedded in the norms and traditions of the profession. In these more bureaucratic organisations, “There’s little room for passion, ingenuity, and self-direction” Hamel (2000, 4) resulting in an inability to respond to a rapidly changing environment that requires flexibility and creativity. In other organisations, lack of a research and innovation policy hinders libraries to be creative and operate outside the prescribed library norms and procedures Swain (2014).

## **METHODOLOGY**

This survey study was conducted to determine the significance of R&D, creativity and innovation in the UNILIA libraries in Malawi. The research universe consisted of the library staff at the University of Livingstonia. Basically, the survey was largely quantitative in its approach. The quantitative research approach is based on the measurement of quantity or amount Rajasekar, Philominathan, and Chinnathambi (2006). In quantitative research, a process is expressed or described in terms of one or more quantities. According to William (2011), quantitative research is characterised by its numerical, non-descriptive nature as it applies statistics or mathematics and uses numbers; follows an iterative process whereby evidence is evaluated, the results are often presented in tables and graphs; and mostly the approach uses closed ended questions to collect data. Survey questions were purposely sent via e-mail to 13 staff in UNILIA libraries. Nine library staff answered the survey questions and this translated into 69% of the total research subjects who gave feedback. The survey technique is used to collect data in research. In this regard, a survey form was created in Google Drive programme (<https://forms.gle/c8r4RkTHBzGCK1Co7>) and backed up using paper-based questionnaires. The survey consisted of 5 multiple-choice-questions. All answers were kept confidential. A programme link was sent to the e-mail addresses of all library personnel and they were asked to answer the survey questions voluntarily. Data collected via the survey was transmitted to the Google Drive survey form application, and analysed and evaluated via MS Excel for graphical, tabular and percentages presentations.

## **RESULTS AND DISCUSSION**

This section presents the findings of the survey on the following objectives; innovative products, services and practices in academic libraries, significance of R&D, creativity and innovations in academic libraries, and challenges library professionals face in pursuit of library R&D, creativity and innovation. Data were analysed using descriptive statistics. Frequencies, tables and graphs were employed to present data.

## **DEMOGRAPHICS OF UNILIA LIBRARIES STAFF**

This section investigated the demographics of UNILIA libraries staff in terms of gender and highest academic qualifications. Of the respondents, 5 (56%) were males and 4 (44%) were females. The University of Livingstonia adheres to a gender policy in providing equal employment opportunities between males and females, hence these results. Figure 1 summarizes the findings.

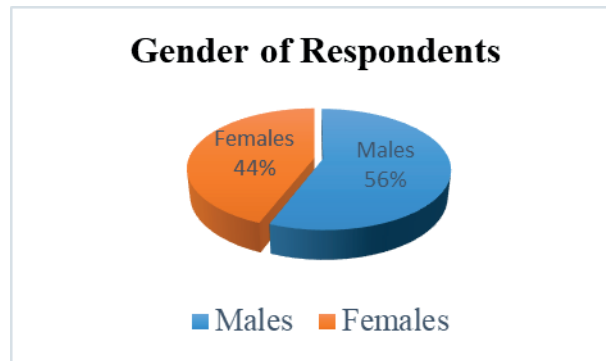


Figure 1: Gender distribution of respondents

In terms of highest academic qualifications, 4 (44%) had Malawi Library Association (MALA) certificate, 3 (33%) had a Bachelor's degree in Library and Information Science (LIS), 2 (22%) had a Diploma in LIS, one (11%) had a Master's degree and there was no respondent with a PhD. Figure 2 presents the findings.

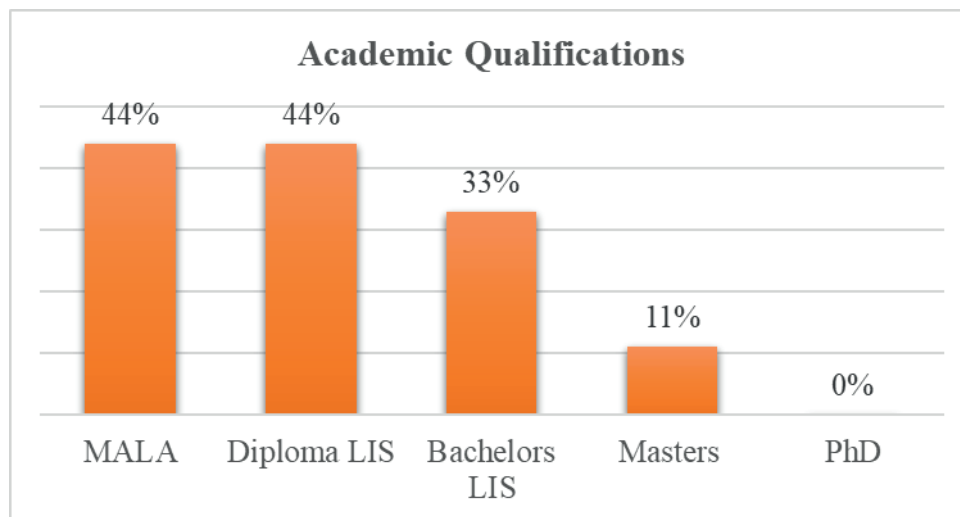


Figure 2: Qualifications of respondents

### **Innovative products, services and practices in academic libraries**

Technological advancements have generated profound effects on how academic libraries deliver their services to the user community. In order for libraries to remain relevant to their customers, they must follow the fundamental rule of business, that is, to supply what is demanded by their market (Salve and Waghmare 2008). "You can't do today's job with yesterday's tools and still be in business tomorrow" (Anonymous). Today, those academic libraries that still enjoy massive patronage and readership have quickly responded to changes in the external environment by adopting innovative and technology assisted products and services to meet the user's demands and expectations.

The next section sought to find out innovative products, services and practices in UNILIA libraries. All the nine respondents (100%) indicated that in UNILIA libraries, innovative products, services and practices are evident in ICT based services (Internet, emails, library 2.0, Facebook, twitter) provided to their users. Generally, the superfluity of ICTs in every sector, including education is increasingly adopted to aid in service delivery. Four (44%) respondents indicated that UNILIA libraries provide electronic catalogues and portals which students use to access the contents of the libraries. These findings agree with those of Emezie (2018) that most innovations in academic libraries are driven by ICTs. In Emezie's (2018) study, it was found that ICTs

result in library innovative products and services such as internet, emails, e-books, e-catalogues and portals, e-journals, library 2.0, and social media platforms. In other studies, it has however been indicated that in libraries, technological innovations have led to the birth of more novelty services such as virtual references, e-publications, mobile library services, e-libraries, online reference forms, online interlibrary borrowing, digital marketing services Li, (2006); Salve and Waghmare (2008); Val Skelton (2011). In UNILIA libraries, it seems that the adoption of innovative products and services is at a slow pace. This is noted in these findings that some trending innovations in academic libraries such as open access repositories, mobile libraries, and online library services among others are not fully leveraged in service delivery.

**Table 1: Innovative products and services are available in your library**

Innovative products and services in academic libraries	f	%
ICT based services (Internet, emails, library 2.0, Facebook, Twitter)	9	100
Electronic catalogues and portals	4	44
Virtual reference services (ask a librarian)	3	33
Open access repositories i.e. Institutional Repositories (IR)	2	22
Mobile library services (Mobile OPAC app, RSS feeds on mobile phones, SMS, GPS)	2	22
E-publications	1	11
Digital Marketing Services (DMS)	0	0
Online electronic document delivery form	0	0
Online interlibrary borrowing form	0	0
Online reference form	0	0

### **Significance of R&D, creativity and innovation in academic libraries**

Academic libraries are at the edge of a very deep change, and R&D, creativity and innovations are strategies that have allowed organisations to survive in a context of changes, many of them disruptive Carvalho (2014, 1). According to Yeh and Walter (2016), it was undebatable that traditional library users visited a library building to conduct research, locate and retrieve items from the collection, or consult a librarian at the reference desk. With the advent of the Internet, more and more library services are delivered digitally. The fact is that in the information age, the best thing that library managers can do is to constantly respond to the technological changes to meet the needs of the twenty-first century users. In this section, respondents were asked to highlight the importance of library R&D, creativity and innovation in UNILIA libraries. As presented in Table 2, it is seen that academic libraries mainly pursue library R&D, creativity and innovation for three reasons. Firstly, the majority of respondents as represented by eight (89%) respondents indicated that R&D, creativity and innovation help libraries to adapt the rapidly changing technological environment and through innovations, libraries also improve existing products, services and practices to meet twenty-first century users' needs and expectations. Seven (78%) respondents said that R&D, creativity and innovation help libraries to exploits new opportunities and trends in LIS profession. In a study conducted by Elves (2015), it was stressed libraries should engage in research and development, be creative and innovative first to adapt the rapidly technological changing environment; secondly, improve existing products and services and thirdly to make use of new opportunities and trends in the LIS profession.

**Table 2: Significance of R&D, creativity and innovations in academic libraries**

<b>Significance of R&amp;D, creativity and innovations in academic libraries</b>	<b>f</b>	<b>%</b>
Helps libraries adapt the rapidly changing technological environment	8	89
Helps libraries improve existing products, services and practices to meet 21 <sup>st</sup> century users' needs and expectations	8	89
Helps libraries exploits on new opportunities and trends in LIS profession	7	78

### **The challenges library professionals face in the pursuit of R&D, creativity and innovation**

The section presents the challenges UNILIA library professionals face in the pursuit of R&D, creativity and innovation in libraries. The analysis of data collected is presented in Table 3 below:

**Table 3: The challenges library professionals face in the pursuit of R&D, creativity and innovation (N=9)**

<b>The challenges library professionals face in the pursuit of R&amp;D, creativity and innovation</b>	<b>f</b>	<b>%</b>
Lack of R&D and innovation policies in universities	9	100
Organization culture doesn't support R&D and innovation	9	100
Lack of well-established R&D and innovation centres in universities	8	89
Lack of financial resources for library innovations	6	67
Unpredictable technological landscape of 21 <sup>st</sup> century	5	56

To pursue the culture of research and innovation in academic libraries, library professionals are challenged in many ways. In this study at UNILIA libraries, all nine (100%) respondents indicated that R&D, creativity and innovation are obstructed by the lack of an R&D policy and the organisational culture that doesn't support research and innovation. Eight (89%) respondents indicated that due to lack of a well-established R&D and innovation policy at UNILIA affects the pursuit of research and innovation. In a nutshell, the pursuit of a library R&D, creativity and innovation at UNILIA libraries is obstructed by the following challenges: lack of R&D and innovation policy, unsupportive organisational culture, lack of a well-established R&D and innovation centre, lack of financial resources for library innovations and the unpredictable technological landscape of the 21<sup>st</sup> century. Generally, in the absence of research and innovation policies, library professionals lack a policy direction in pursuit of a library R&D, creativity and innovation Brandy (2014); Swain (2014). Research and innovations in libraries also flourish in the presence of monetary support by the parent institution which at the same time also advocates for the innovative culture Jantz (2012). In a study by Carvalho (2014), it was also indicated that even though library services, contents, users and the context of academic librarianship has changed deeply in response to the technological environment, the mission, culture and structure of an academic library have not changed much in universities. Worth noting is that in general, universities are very hierarchical and formal organisations and within them academic libraries are not independent, but they are mirrors of this structure and culture. Academic libraries may want to change and embrace innovative models of management and develop innovative strategies, but mostly due to lack of support from the University they fail.

## **CONCLUSION AND RECOMMENDATIONS**

As the practice of the twenty-first century academic is increasingly becoming more complex and more of transformational service delivery approach, academic libraries will likely to continue experiencing additional pressure to come up with new products and services to keep users satisfied. Academic library managers should be upfront in embracing new and innovative products, services and practices. In reference to the findings of this study, the researchers suggest that the management of UNILIA should formalise the research



and innovation policy. In addition, it is also recommended that the University of Livingstonia should establish and operationise a research and development centre. Finally, the university management should also create a culture that will facilitate the sharing of ideas and knowledge through research, creativity and innovation.

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