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### Abstracts

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### Aims and Scope

IFLA Journal is an international journal publishing peer reviewed articles on library and information services and the social, political and economic issues that impact access to information through libraries. The Journal publishes research, case studies and essays that reflect the broad spectrum of the profession internationally. To submit an article to IFLA Journal please visit: [journals.sagepub.com/home/ifl](http://journals.sagepub.com/home/ifl)

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## Publishing in *IFLA Journal*: Balancing between the global and the local

**Steven W. Witt**

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Over the past five years, *IFLA Journal* has grown significantly regarding the number of submissions and impact of its articles. With manuscript submissions in 2020 topping 200 for the first time, we have decided to increase the journal's output by eliminating page limits for each issue. We aim to maintain a reasonable acceptance rate and ensure that articles reach their worldwide audience quickly. Readers will note that this issue contains 11 articles, making it the largest issue of the journal in recent memory. Output, however, is not as important as quality. The journal is particularly pleased to see an increase in the quality of submissions and a continued diversity of authors and topics. In 2020, the journal advanced to the first quartile within the Scimago journal rankings of library and information science journals.<sup>1</sup>

While *IFLA Journal* continues to grow, the editor and editorial committee seek to reflect the values of IFLA by viewing our global profession and its practices from within their local contexts as opposed to implementing a universalizing and normative vision for library and information sciences. This issue features topics that range from agricultural information and food security to privacy practices within academic libraries. The perspectives are not dominated by one region and include sub-Saharan Africa, North America, the Middle East, Southeast Asia, and South Asia. At the same time, these articles fill holes and add to our mental maps of how globalized phenomena (intellectual property, privacy, economic development, education, health, and food security) impact our profession and intersect with the inherently localized social and governance structures under which we all work and live.

As *IFLA Journal* begins to publish more content, the editorial committee would like to re-emphasize the types of manuscripts it seeks for publication and extend support for those developing research and writing skills. During the summer of 2021, the committee will host a series of four webinars on “How to

get published,” which will feature reviewers, authors, and the editor in discussions about the publishing and review process of the journal. These webinars will be scheduled with various world time zones in mind and feature authors and reviewers from various IFLA regions. Through these webinars, we hope to encourage the IFLA community both to consider submitting their work to *IFLA Journal* and to further develop skills to increase our overall capacity to generate the critical knowledge that our profession needs as it faces increasingly globalized challenges, such as those reflected in the United Nations 2030 Sustainable Development Goals. Please visit the *IFLA Journal* website for further details on these workshops.<sup>2</sup>

*IFLA Journal* seeks papers in the following general categories, which are described further below: original articles, review articles, case studies, and essays. In some manner, submissions should seek to engage the global as it relates to the topic being studied. This does not require that manuscripts focus on a top-down global perspective or include comparative and international frames of reference—though these are welcome. Regardless of methodology, we seek research and commentary that is able to navigate between the global and the local to produce research that “revolves around traces that suggest relations between local and global frames” (Kahn and Gille, 2020: 235). For example, a case study should not simply be bounded to the local frame of reference, but should help create routes toward understanding how global phenomena within library and information science are represented, manufactured, reimagined, and adapted in various ways. Lynch et al.'s (2021) article on crowd-sourcing for libraries in Africa provides an excellent

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example of addressing the global within a regionally framed case.

At the same time, more empirical work should recognize in its design and analysis that the topic and issue it is dealing with may be operating at multiple conceptual and spatial levels that may be relevant to its study (Darian-Smith and McCarty, 2017: 77). Authors should make attempts to discuss and reference both the importance and significance of the local context and the broader global structures that influence and relate to the topic of research. For example, there are clear global trends and structures of power that currently drive the profession toward digitization and support for research data. Scientific practices, societal demands to support economic growth and sustainability, and issues of access all inform these pursuits and should be reflected in the questions and methods we choose when we design our research or analyze contemporary issues impacting the field. The work of Makinde et al. (2021) successfully contextualizes the information-seeking behavior of science and technology researchers by placing the economic role of scientific research in Nigeria within the context of global patterns adopted by researchers, expanding the work's relevance to the global level though the unit of analysis is constrained to a national level. In this manner, we aim to publish articles that are in dialogue with one another and help us better understand the ways in which we are connected within the profession through both practice and the matrix of global, national, and local forces within which we are all simultaneously the actors and the acted upon with varying levels of power and privilege.

### Original articles

Original articles constitute traditional empirical research, drawing on quantitative, qualitative, or mixed research methodologies. For helpful and practical instruction on both design and methodologies, see Connaway and Radford's (2016) *Research Methods in Library and Information Science*.

### Review articles

A review article provides a detailed and authoritative summation of the current state of research and understanding on an important topic within the field. A review article should not only document important figures working on a topic, but also examine recent advances, current debates, gaps, and future directions for research on the topic.

### Case studies

Case studies provide a valuable record of the practices of the library and information science professions. As a distinct qualitative methodology, case studies for *IFLA Journal* encompass both practical and theoretical issues in the field by focusing on a single case. A case study should not be approached as a means to promote the problems or accomplishments of an institution. For further information on how to design your case study, see Yin's (2018) important work on case study design.

### Essays

Essays provide an informed analysis of viewpoints, trends, and controversies within the field of library and information science. For example, an essay may contribute an important conceptual analysis of policies that impact and contribute to the information environment as it impacts the profession locally and/or globally. Further, essays may provide the basis for further empirical research, policy analysis, action, or theorizing within the field.

### Notes

1. See <https://www.scimagojr.com/journalsearch.php?q=16800154717&tip=sid>
2. The *IFLA Journal* website is at: <https://www.ifla.org/publications/node/1691>

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# Knowledge and skills for accessing agricultural information by rural farmers in South-East Nigeria

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## Abstract

Rural farmers make up the majority of crop producers in any developing economy. Their level of access to agricultural information stems from the knowledge and skills they possess. This article aims to identify the sources of agricultural information and the level of knowledge and skills rural farmers possess for accessing such information in South-East Nigeria. A structured interview schedule and focus group discussions were used to collect relevant data. The method of analysis involves frequency counts, percentages and means. The study reveals that 41.7% of the respondents were between the ages of 41 and 50, while 62.6% were married, 84.8% were Christians and 29.8% had no formal education. The major source of agricultural information was through friends and co-workers, while the knowledge and skills they possessed for accessing agricultural information were generally low. The work provides an objective framework and measure of the existing competencies, and identifies the need for further skills acquisition.

## Keywords

Agricultural information, rural farmers, knowledge and skills, food security, farmers, agricultural production

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## Introduction

Farmers who live in rural areas are generally referred to as rural farmers. Umebau (2008) stated that, historically, ‘rural’ referred to areas with low population density and relative isolation, where one major economic activity is agricultural production and the people are relatively homogenous in their values, attitudes and behaviour. Obidike (2011) stated that rural farmers form the majority of the population in Nigerian agricultural production. According to the Federal Office of Statistics (2004), agricultural activities in Nigeria are predominant in rural areas, where more than 86.5% of the households participate in agriculture, compared with only 14% in urban areas. The chronic food deficits experienced in most developing countries are a result of the lack of capacity of rural farmers to produce enough food for the population. Agricultural information is one of the prerequisites for agricultural production.

Agricultural information can be defined as specialized information if it is situation-specific, such as the

result of a soil test or the identification of a new market (Zeza, 2002). Zeza (2002) further stated that, in other situations, it can be general information designed to improve existing production practices, farm management, marketing and processing activities. Ballantyne (2005) stated that agricultural information on modern systems of farming can reduce costs and provide incentives for expanding agricultural production. He added that it helps to open up and provide opportunities for poor farmers to shape their lives and reduce vulnerability. There are various categories of agricultural information, including information attached to machines, biotechnological information, chemical information, agronomic information and climatic information. If such sources of information are not accessed, it will adversely affect

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rural farmers' lives and the level of agricultural production.

Some authors (for example, Ferris et al., 2008; Gakuru et al., 2009; Heeks, 2007; Karamagi-Akiiki, 2006) have written that to facilitate the sharing of new knowledge, innovations and technology, players in the public and private sectors have used various information and communications technologies (ICTs), such as radio, television, mobile phones and the Internet. Jones and Garforth (1998) enumerated the sources of agricultural information as books, journals, popular as well as scholarly theses, dissertations and conference proceedings, research reports or technical bulletins by experimental stations, maps and aerial photographs. Nossal and Lim (2011) noted that farmers have not acquired sufficient agricultural information to maintain agricultural production, resulting in the slowing down of growth over the previous decade. The main reason given by Chaudhary (1997) for low agricultural production in Pakistan compared to its potentials is that farmers lack access to current agricultural information and technology.

In recognition of the challenges that rural farmers face, Mchombu (2001) stated that there is a need to develop an information provision model that addresses the felt needs and circumstances of this important target group. Access to agricultural information has been a key driver to improvements in the growth of the agricultural sector in many countries. Adomi et al. (2003) noted that farmers need to access agricultural information if their efforts to improve agricultural production are to be realized. This is as a result of the importance of agricultural information in the battle to achieve food security and fight poverty. An improved information and knowledge flow to, from and within the agricultural sector is a key component in improving small-scale agricultural production and linking increased production to remunerative markets (Lwoga et al., 2011). Rural farmers require agricultural information on the supply of farm inputs, new technologies, early warning systems, credit and market prices. Munyua (2000) maintains that the Green Revolution in Asia and the Near East is an indication of the importance of access to knowledge, information and technology in expanding and energizing agriculture.

The agricultural sector will deteriorate in the hands of rural farmers if attention is not given to them. The negative impact that can result from the lack of access to agricultural information includes poor health conditions of rural farmers, low income, an inadequate supply of raw materials to the industrial sector, and a reduction in employment and foreign exchange earnings. Factors such as the treatment of soil, determining weather conditions, and biochemical products and

their application will not be facilitated to improve the agricultural sector. The absence of agricultural information brings the nation's agricultural output below expectations. This has been observed in food deficits and the upward trend in the price of foodstuffs over the years (Igwe and Esonwune, 2011). The natural resources base underpinning agricultural production will be under threat. Crop intensification, which enables an increase in food production, will be slowed. It can also result in rural farmers lacking negotiating powers.

The question is: What knowledge and skills do these rural farmers possess to access agricultural information? Much of this knowledge and many of these skills may be learnt informally over the years and are seldom reflected in an individual's qualifications. Knowledge is an organized set of statements, facts and ideas. A knowledgeable person can seek information with reasoned judgement. According to Paul (2007), knowledge is a familiarity, awareness or understanding of someone or something, such as facts, information, descriptions or skills, which is acquired through experience or education by perceiving, discovering or learning. On the other hand, skills can be said to be of productive value; they can be acquired by training or development and are socially determined. Ryu (2017) states that skill is an ability and capacity acquired through deliberate, systematic and sustained effort to smoothly and adaptively carry out complex activities or job functions involving ideas, things and/or people. UNESCO's (2012) *Education for All Global Monitoring Report* identifies three main types of skills: foundation skills, transferable skills, and technical and vocational skills. The skills considered in this study involve some aspects of these categories, which are transferable and needed by rural farmers to adapt to their work environment. They are an informally acquired ability by rural farmers to determine their information needs and access and evaluate them to accomplish a specific purpose in agricultural production.

The conceptualized variables for knowledge and skills are supported by Leta et al. (2018), who asserted that farmers acquire knowledge through social networks by means of communication, observation, collective labour groups, public meetings, sociocultural events and group socialization. UNESCO's (2014) *Education for All Global Monitoring Report* emphasizes the need for young people to learn not only foundation skills, but also transferable skills as part of becoming 'responsible global citizens'. Reflecting on post-2015 education, UNESCO (2013; p. 2) proposed a strengthened and broadened Education for All vision as an integral part of the broader international

development framework, highlighting ‘equitable access to lifelong learning opportunities to develop skills and competencies for life and work’ as a focus. The Organisation for Economic Co-operation and Development (2013), in the results from its Survey of Adult Skills, also underlines the need to move from a reliance on initial education towards fostering life-long skills-oriented learning. It is against this background that knowledge and skills possessed by rural farmers for accessing agricultural information need to be studied.

The general purpose of this study is to investigate the knowledge and skills of rural farmers in South-East Nigeria with regard to accessing agricultural information. The specific objectives are to determine the major sources of agricultural information utilized by rural farmers and to ascertain the knowledge and skills possessed by them for accessing agricultural information.

### Literature review

In research carried out by ETC East Africa (2000) and Hoffmann et al. (2007), it was concluded that knowledge and skills are essential resources for farming, and studies of the ways in which farmers obtain and share knowledge could be valuable to farming system research and extension, informing policy and leading to more efficient farming. According to Siyao (2012), a lack of knowledge and skills for accessing agricultural information is the main barrier experienced by small-scale sugar-cane growers. Robinson-Pant’s (2016) study provides strong evidence that rural farmers learn traditional and new knowledge and skills informally within their communities through interaction and observation, and that the older generation modelled practice for their peers and children. Onu et al. (2018) carried out a study to determine the essential theoretical knowledge and skills required by rural farmers in making mobile phones effective for boosting agricultural production in Enugu State, Nigeria. They identified some knowledge and skills in the use of mobile phones for boosting agricultural production. Fonseca et al. (2018) stated that people must have basic ICT competences that allow them to access knowledge and permit them to benefit from those sources by recognizing their quality and reliability. Nicholas-Ere (2018) designed and developed an improved ICT solution that would provide rural farmers with agriculture-related information and improve farmers’ knowledge of current agricultural practices.

Some development partners, such as the Food and Agriculture Organization (2001, 2003), have also set

up a number of initiatives, projects, networks and systems that use modern ICTs to improve linkages and flows for agricultural knowledge and information. In addition, a number of public access centres and telecentres have been established in the rural areas of developing countries, including Kenya, South Africa and Uganda, to improve access to agricultural information and enhance agricultural production (Benjamin, 2001; Karamagi-Akiiki, 2006; Ochieng and Waema, 2009; Stilwell and Munyua, 2009). The Food and Agriculture Organization and World Bank (2000) stated that, except in extremely remote areas, most rural people have access not only to national radio, but increasingly also to local community-based radio stations. They further stated that access to telephones has increased spectacularly, particularly in very poor countries. Ezeh (2013) noted that although many ICT facilities existed in his study area, the radio, television and telephones were sourced personally from the open market and were the most readily available ICT facilities accessed and utilized by farmers for improving their agricultural knowledge.

A study carried out by Omoregbee et al. (2013) in Nigeria revealed that the Ministry of Agriculture, friends and neighbours, and radio and television were the major sources of agricultural information. The results further highlighted the importance of the Ministry of Agriculture as a major source of information for cassava farmers, although the credibility of friends and neighbours as a source of information for farmers was not in doubt. Uzuegbu (2016) identified six major channels through which rural information delivery is generally anchored: the mass media, information service systems, education and training programmes, change agents, personal contacts and miscellaneous channels. Adetimehin et al. (2018) revealed that the key sources of information used by rice farmers in Ondo State, Nigeria, were friends or relatives and the radio. This is supported by Opara (2008), who stated that most information reached farmers through interpersonal or expert sources.

Rehman et al. (2013) found that print media and fellow farmers were the major sources of information for farmers in their study area. Ajani and Agwu (2012) determined that the majority of farmers used the radio and television, and owned mobile phones and video recorders. The level of access showed the low frequency of computer-based ICTs and video recorders. Mwombe et al. (2013) discovered that the majority of their respondents accessed agricultural information through the radio, followed by mobile phones and then television, and that most farmers lacked the requisite skills and physical access to the Internet and computer-related services.

In the same vein, Lwoga et al. (2011) and Adio et al. (2016) found that the major sources of agricultural information were neighbours, friends and family; agricultural input suppliers; village meetings or farmer groups; personal experiences; village leaders; livestock herders; agricultural shops; non-governmental organizations; cooperative unions; religious groups; and public extension officers. They further stated that, with respect to access to agricultural information and knowledge through ICTs, the majority of farmers used the radio, which was rated highest, followed by mobile phones and television. Similarly, Ngimwa et al. (1997) established that modern mass media had a low response rate as a first source of information because the use of mass media was not popular. They attributed it to a lack of finances and time, illiteracy, cultural barriers and religious beliefs. They also found that the media available was diverse, with radio scoring highest and television lowest.

Mokotjo and Kalusopa (2010) found that information provided by the Agricultural Information System was of fairly good quality in terms of relevancy and currency, and had improved productivity, but was not easily accessible to most farmers. They stated that most farmers did not possess the necessary skills for accessing agricultural information.

Jiyane and Ocholla (2004) observed that farmers were not satisfied with the information they obtained, noting that it was either not relevant to their needs or not helpful, and that friends, neighbours and relatives were their sources of information. Akanda et al. (2012) carried out a study of the agricultural information literacy of farmers in the northern region of Bangladesh. The analysis of the survey revealed that they sourced information from established information centres, while the majority of the farmers did not have the sufficient skills to evaluate and use the information. Adamides and Stylianou (2013) attempted to investigate the current situation regarding the use of mobile phone as a means of information-sharing among Cypriot farmers. The findings revealed that the majority of farmers in Cyprus used mobile phones as a source of agricultural information, and the most frequently used mobile phone application was voice calls, followed by text messages. Nenna (2012) noted that young, married, experienced women with no formal education learnt about fisheries technologies from their fellow fisherwomen, friends or relatives, their husbands, farmer organizations, radio or television, agricultural shows, and magazines or journals.

Faborode and Ajayi (2015) discovered that most of the technologies developed by research institutions were not accessed by farmers but remained with the researchers. This finding points to a gap in

communication and linkage between research, extension and farmers, despite the conceptualization of research-extension-farmer-input linkage system (REFILS) as a multidimensional change agent in the generation, development, dissemination and use of innovations within the agricultural technology system. The finding equally shows that the major sources of information for the majority of farmers were the state extension units of the Agricultural Development Project. Oluwasusi and Akanni (2014) state that fellow farmers had the highest percentage as sources of access to information, followed by the radio, extension agents, television, e-wallets, newspapers and the Internet. Ofuoku et al. (2012) revealed that sources of information on fish farming included extension agents, fellow farmers, fish farmer groups, universities, research institutes and non-governmental organizations.

In summary, the literature has identified the major sources of agricultural information for rural farmers and the lack of knowledge and skills for accessing it. It has further established that basic knowledge and skills are the key to accessing agricultural information, with some technical skills being possessed by farmers. Despite outlining the sources of agricultural information and the need for relevant knowledge and skills, or the lack thereof, none of the literature reviewed has related the identified sources of information to the requisite knowledge and skills. This has strengthened the need to examine the knowledge and skills possessed by rural farmers to access agricultural information successfully.

## Methodology

This study adopted a mixed-methods approach involving a structured interview schedule (see Appendix 1) and focus group discussions. The study looks at South-East Nigeria, which covers an area of about 76,358 square kilometres and is located east of the Lower Niger and south of the Benue Valley. The region is heavily populated, considering the land mass. According to Enete et al. (2011), the region has a population of 31,371,941 and an average population density of 416 persons per square kilometre. Okoye et al. (2010) noted that 60–70% of the inhabitants of South-East Nigeria are engaged in agriculture – mainly crops and animal rearing.

A list of 121,953 registered contact farmers was obtained for the five states under study Agricultural Development Project (ADP, 2016). The sample size was obtained using Dusick's (2015) sample calculator formula. The default settings were used to calculate the sample size, with a 5% margin of error, 95%



confidence level, population size of 121,953 and response rate of 50%. This resulted in a sample size of 383 registered farmers from the five states.

Proportional allocation was used to determine the number of respondents in each state. The ratio of the sample size allocation according to the number of registered farmers in the states of Ebonyi, Abia, Anambra, Imo and Enugu is 99:74:80:72:58. The multi-stage sampling technique involving simple random sampling in each stage was used to draw a portion of the population in this study, so that all possible samples of fixed size  $n$  had an equal probability of being selected (Kerlinger, 1973). In stage one, two agricultural zones were selected from each of the states. Stage two involved the random selection of one local government from each zone followed by the selection of two agricultural farm communities. The third and final stage was the random selection of the study's respondents using the list of registered farmers.

The structured interview schedule was prepared in English (see appendix 1) and given to enumerators who had been trained on how to conduct the exercise of data collection. They were responsible for interpreting the questions for the respondents and completing the schedule. This was handled as an interview schedule or non-self-administered questionnaire in situations where the farmers could not read or write English (Opara, 2008). In each state, three enumerators were recruited on the basis of their experience in data collection, with a focus on rural farmers and knowledge of the terrain. The fieldwork lasted for two weeks. This was followed by post-survey clarifications, data cleaning, coding, analysis, interpretation and report-writing. The responses were rated as 4: Very high, 3: High, 2: Low and 1: Very low, giving an overall average of 2.5.

A focus group discussion guide was used by the enumerators to collect the required information from the respondents. Twenty-five focus group discussions, made up of ten farmers per session and lasting for about an hour each, were organized. The topics moderated for discussion were the major sources of agricultural information and the knowledge and skills possessed by the rural farmers. The responses sometimes led to further probing in an attempt to find out their satisfaction levels. The data collected from both methods was combined and used in the analysis.

## Findings and discussion

The data collected was analysed using the Statistical Package for the Social Sciences version 21 and the frequency counts, percentages and means of the responses were obtained. Table 1 shows the percentage distribution of the socio-economic characteristics of

**Table 1.** Percentage distribution of the socio-economic characteristics of the respondents.

Socio-economic characteristics	Frequency	%
<b>Gender</b>		
Male	220	59.6
Female	149	40.4
<b>Age</b>		
< 30	19	5.1
31–40	42	11.4
41–50	154	41.7
51–60	110	29.8
61–70	24	6.5
70+	20	5.4
<b>Marital status</b>		
Single	48	13.0
Married	231	62.6
Widow	42	11.4
Widower	31	8.4
Separated/divorced	17	4.6
<b>Religion</b>		
Christian	313	84.8
Muslim	5	1.4
Traditional religion	51	13.8
None	0	0.0
<b>Educational level</b>		
None	110	29.8
Adult literacy	129	35.0
Primary	63	17.1
Secondary	48	13.0
Tertiary	19	5.1

the rural farmers. The mean rating of the level of access to agricultural information was obtained and ranked in order to identify the major sources of agricultural information (Table 2). We went further to identify the key knowledge and skills possessed by the rural farmers using the mean response (see Table 3).

Table 1 shows the socio-economic characteristics of the rural farmers in South-East Nigeria. It shows that about 60% of the respondents were male, while 41.7% of the respondents fell within the 41–50 age group. Approximately 62.6% were married, while 13.0% were single. The majority of the respondents (84.8%) were Christians and about 29.8% had no formal education.

Table 2 shows the identified major sources of agricultural information utilized by the rural farmers. The respondents were asked to rate the sources as Very high, High, Low or Very low. The results indicate that the major sources were friends or co-farmers (94.9%), village meetings (65.3%) and mobile phone (60.2%), agreeing with the mean ratings, which identify these as the major sources of agricultural information for rural

**Table 2.** The actual and percentage responses for the ratings of sources of agricultural information for rural farmers.

Sources of agricultural information	Very low Frequency (%)	Low Frequency (%)	High Frequency (%)	Very high Frequency (%)	Mean
Friends/co-farmers	0 (0.0)	19 (5.1)	0 (0.0)	350 (94.9)	3.90
Village meetings	0 (0.0)	0 (0.0)	128 (34.7)	241 (65.3)	3.65
Mobile phones	0 (0.0)	0 (0.0)	147 (39.8)	222 (60.2)	3.60
Family/relatives	19 (5.1)	0 (0.0)	128 (34.7)	222 (60.2)	3.56
Marketplace	19 (5.1)	0 (0.0)	129 (35.0)	221 (59.9)	3.52
Agricultural input suppliers	19 (5.1)	0 (0.0)	129 (35.0)	221 (59.9)	3.50
Cooperative unions	0 (0.0)	43 (11.7)	110 (29.8)	216 (58.5)	3.47
Personal experiences	0 (0.0)	0 (0.0)	222 (60.2)	147 (39.8)	3.40
Radio	0 (0.0)	0 (0.0)	258 (69.9)	111 (30.1)	3.30
Non-governmental organizations	128 (34.7)	0 (0.0)	38 (10.3)	203 (55.0)	2.86
Church gatherings	0 (0.0)	239 (64.8)	19 (5.1)	111 (30.1)	2.65
Television/videos	0 (0.0)	240 (65.0)	37 (10.0)	92 (24.9)	2.60
Extension agents	58 (15.7)	181 (49.1)	83 (22.5)	47 (12.7)	2.32

**Table 3.** The ratings of the knowledge and skills possessed by the rural farmers for accessing agricultural information.

Knowledge and skills possessed by the rural farmers	Very low Frequency (%)	Low Frequency (%)	High Frequency (%)	Very high Frequency (%)	Mean
Social interaction	37 (10.0)	92 (24.8)	110 (29.8)	130 (35.2)	2.90
Ability to seek and receive needed agricultural information	19 (5.1)	128 (34.7)	203 (55.0)	19 (5.1)	2.60
Good communication	19 (5.1)	129 (35.0)	221 (59.9)	0 (0.0)	2.55
Ability to use print media	92 (24.9)	147 (39.8)	105 (28.5)	25 (6.8)	2.17
Reading and understanding ability	53 (14.4)	218 (59.1)	98 (26.6)	0 (0.0)	2.13
Use of ICTs	91 (24.7)	157 (42.5)	103 (27.9)	18 (4.9)	2.12
Evaluating and using information skills	111 (30.1)	239 (54.8)	0 (0.0)	19 (5.1)	1.80
Library-use skills	240 (65.0)	110 (29.8)	19 (5.1)	0 (0.0)	1.40

farmers. Other sources include: family/relatives, agricultural input suppliers, marketplaces, cooperative unions, personal experiences, radio, non-governmental organizations, church gatherings and television/videos. These results agree with the findings of Lwoga et al. (2011), Oluwasusi and Akanni (2014), Adio et al. (2016) and Adetimehin et al. (2018).

This was corroborated by the focus group discussions, where the rural farmers stated that they got more information by relating with each other, in discussions with friends, fellow farmers and relatives, than through mobile phones or radio programmes. This agrees with the report of the Food and Agriculture Organization and World Bank (2000) on the use of phones and the radio. It is clear that extension agents were not among the major sources of agricultural information for the rural farmers, even though they are meant to act as a link between researchers and rural farmers. It was established that anything that brought rural farmers together created an opportunity to source agricultural information.

The preponderance of informal sources over formal sources could be attributed to the illiteracy rate of the rural farmers; financial difficulties; the distance from rural areas to urban centres; and the unavailability of agricultural information centres to rural farmers when they are in need of information. The formal ways of accessing agricultural information need to be largely utilized to achieve the desired results in agricultural production.

Table 3 shows the knowledge and skills possessed by the rural farmers for accessing agricultural information, presented in descending order of the means. The respondents were asked to rate each category as Very high, High, Low or Very low. The results indicate that the key knowledge and skills with mean scores greater than or equal to 2.5 are: social interaction, ability to seek and receive needed agricultural information, and good communication.

Observe that the rural farmers to a large extent did not possess skills that would enable them to source agricultural information. This is because the majority

of the mean ratings of the skills possessed by the rural farmers are below average. The focus group discussion results showed that the rural farmers learned more by interacting among themselves in the vernacular, given their low levels of literacy. This result agrees with the findings from the literature that rural farmers lack the knowledge and skills to access agricultural information.

The generally low ratings in Table 3 show that the knowledge and skills possessed by the rural farmers for accessing agricultural information are generally low.

One of the obvious implications of the results is that, with social interaction as a major skill for accessing information among the rural farmers, these results point to earlier studies which found that rural farmers preferred 'interpersonal means' of accessing information (Opara, 2008), and it thus increases the need for public libraries to re-strategize their philosophy towards adopting social-interaction-based services for rural farmers. Furthermore, with friends or co-farmers as the major sources of agricultural information, it reinforces the fact that social interaction skills need to be enhanced.

## Conclusion

The findings of this study indicate that rural farmers in South-East Nigeria rely heavily on informal sources to access agricultural information. This implies that either there is no relationship between research extension and farmers or that it is having a minimal effect. Extension agents are not doing their job of relating their research findings to rural farmers. By extension, this might be one of the reasons why there is a decline in agricultural production in Nigeria, and the south-east in particular. Equally, too, the library-use skills of rural farmers in South-East Nigeria are very low, probably because the expected role of librarians in repackaging information and sending it to rural farmers is not efficient.

The knowledge and skills possessed by the rural farmers in this study area are below average. This has resulted in poor access to agricultural information, especially in highly technical areas like ICT. In any life endeavour, knowledge and skills are required to create an impact. These rural farmers need training workshops, seminars and adult education, among other efforts, to update their knowledge and skills on the ways they can access agricultural information. This study has provided an objective framework and a measure of the existing competencies, and identified the need for further skills acquisition.

The major obstacle encountered in this study is infrastructural deficiency, such as poor access roads

and a lack of networks for telecommunication among farming communities. Future studies should consider how to improve the knowledge and skills of rural farmers and how to reposition libraries to ensure their work extends to rural farmers.

## Appendix I

### Structured questionnaire

Section A: Personal characteristics. Please tick the boxes provided.

1. Gender:

(a) Male  (b) Female

2. Age:

(a) < 30  (b) 31–40  (c) 41–50   
(d) 51–60  (e) 61–70  (f) 71+

3. Marital status:

(a) Single  (b) Married  (c) Widow   
(d) Widower  (e) Separated/divorced

4. Religion:

(a) Christian  (b) Muslim   
(c) Traditional  (d) None

5. Educational level:

(a) None  (b) Adult literacy   
(c) Primary  (d) Secondary   
(e) Tertiary

Section B: Sources of agricultural information. Rate the sources of agricultural information as follows: Very high, High, Low and Very low.

Sources	Very high	High	Low	Very low
1 Friends/co-farmers				
2 Family/relatives				
3 Personal experiences				
4 Radio				
5 Television/videos				
6 Extension agents				
7 Non-governmental organizations				
8 Marketplace				
9 Mobile phones				
10 Agricultural input suppliers				
11 Village meetings				
12 Cooperative unions				
13 Church gatherings				

Section C: Skills possessed by rural farmers for accessing agricultural information. Tick how you rate the skills you possess for accessing agricultural information as follows: Very high, High, Low and Very low.

Skills	Very high	High	Low	Very low
1 Evaluating and using information skills				
2 Use of ICT				
3 Good communication				
4 Social interaction				
5 Reading and understanding ability				
6 Ability to use print media				
7 Ability to seek and receive needed agricultural information				
8 Library-use skills				

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# Research methodology practices among postgraduate Information Studies students in Tanzania

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## Abstract

This bibliometric study investigates the research methodology practices of Master of Arts in Information Studies (MAIS) students at the University of Dar es Salaam, Tanzania. The study established students' insufficient understanding and application of research methodology concepts. Survey research was predominant, with purposive and convenience non-probability sampling methods being extensively used. Simple random sampling and stratified sampling were the probability sampling methods highly used. Findings further show advanced qualitative and quantitative data analyses were inadequately applied. In practice, the study findings can help Library and Information Science institutions around the globe improve teaching research methodology to produce quality theses with logical conclusions which can develop new theories. Quality theses can translate into increased quantity and quality of journal articles and growth of the Library and Information Science discipline. Thus, there is a need to strengthen research methodology training for students and lecturers to generate generalizable findings that meet diverse needs.

## Keywords

Data collection methods, LIS research, LIS research methodology, research approach, research design, research methods, research paradigm

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## Introduction

Research is crucial in identifying, solving social problems and advancing knowledge for judicious decision-making. Research creates new knowledge, tests assumptions and provides a theoretical framework to build on existing findings. Research skills and competencies are important in producing quality post-graduates who can demonstrate critical thinking, analysis, creativity and solution-based problem-solving. Indeed, the generation of valid and reliable research results and knowledge requires careful planning, choice of research methods and adherence to acceptable research procedures (Ngulube, 2005a; Rwegoshora, 2014).

For a number of years, universities around the world have continued to conduct postgraduate

research methodology training programmes to promote the quality of research. The training has aimed at developing critical analysis, mapping ideas for research topics, describing sources of secondary data, qualitative and quantitative research, content analysis and citing and referencing techniques (Mutula, 2011; Quinton and Smallbone, 2006). A number of higher learning institutions (HLIs) globally, including the University of Dar es Salaam (UDSM) offer postgraduate training by thesis and a combination of coursework and dissertation. In

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Tanzania, the UDSM, Open University of Tanzania and Sokoine University of Agriculture are HLIs which offer Library and Information Science (LIS) postgraduate education. In these universities, research training is a prerequisite and core component which exposes postgraduate students to research fundamentals. Students are trained to prepare, execute and present research findings in an acceptable scholarly manner and contribute to new knowledge. In fact, the training provides postgraduate students with an opportunity to conduct research and test the evolution of a discipline, particularly how scholars in a particular field have previously applied certain research strategies, and test their appropriateness in addressing the problem at hand. Postgraduate research training has therefore been a core and fundamental subject in postgraduate education globally. Assessing research methodology applied by postgraduate students is therefore crucial in explaining the growth of disciplines, promoting development of new ideas and identifying new research patterns.

Although most HLIs around the globe train postgraduate students in research methodology, students still face challenges in comprehending the subject and applying research knowledge when conducting research (see Abdoulaye, 2002; Daniel et al., 2018; Ngulube, 2015). The challenges encountered in the research process include interpreting and comprehending research, difficulties in framing the right question, conducting a critical literature review, weak methodological choices, applying statistical and mathematical knowledge, poor supervision, teaching loads and quality of students admitted (Daniel et al., 2018; Manda, 2002; Mutula, 2011). In eastern, central and southern Africa, postgraduate students have also continued to face research methodology when conducting research (Mutula, 2011). In fact, poor methodological choices seem to contribute to most research in developing countries lacking empirical rigour and being descriptive (Moahi, 2008).

As such, these studies discovered postgraduate students have increasingly faced challenges related to research methodology. In Tanzania, where this study was conducted, Manda (2002) and Komba (2016) who researched postgraduate students' methodology capabilities noted that students had insufficient knowledge on research methods. Thus, despite the dire need for HLIs in Tanzania to produce graduates competent in research, many of the postgraduate students still lack adequate research knowledge. Although a number of studies as highlighted above have been conducted on the topic in developed and

developing countries, no comprehensive bibliometric study has been conducted in Tanzania which has assessed LIS postgraduate students' research methods application. In fact, little is known on the quality of research methodology practices of LIS postgraduate students in Tanzania. It is against this backdrop that this study sought to evaluate Master of Arts in Information Studies (MAIS) dissertations completed between 2000 and 2016. Specifically, the study aimed to examine students' research design and paradigms, research approach and sampling. The study also sought to assess the response rate and application of validity and reliability and data analysis methods used.

### **Research questions**

- RQ 1 Which research design do MAIS students apply?
- RQ 2 Which research approach do MAIS students deploy?
- RQ 3 Do MAIS students indicate the research paradigm applied?
- RQ 4 What sampling procedures do MAIS students use?
- RQ 5 How do MAIS students determine sample size?
- RQ 6 Which data collection instruments do MAIS students use?
- RQ 7 Are reliability, validity and response rate addressed?
- RQ 8 Do MAIS students pre-test research instruments?
- RQ 9 Which data analysis methods do MAIS students use?

### **Literature review**

#### ***Conceptualizing research methodology***

Research is a process of making claims and developing appropriate truthful statements that can explain the situation of interest to a researcher using relevant methodology (Creswell, 2003). Research methodology is a strategy and plan of action, which links methods to outcomes and guides the researcher's choice, data gathering and data analysis methods in conducting research (Creswell, 2003; Rwegoshora 2014; Silverman, 2010). Thus, methodology – a scientific endeavour – systematically explains how researchers gather, classify, analyse and interpret data in addition to making logical conclusions based on the research inquiry. As for research methods, they are tools, techniques and procedures researchers apply to collect data (Creswell, 2003; Rwegoshora, 2014). The key outcome of a research method is generating reliable,



credible and valid information that researchers can share and replicate (Creswell, 2003; Ngulube, 2005a; Rwegoshora, 2014).

A paradigm, on the other hand, entails the entire beliefs, worldview and techniques an individual uses, which are also accepted by members of a particular scientific discipline guiding the subject, activity of the research and research outputs (Pickard, 2013). Four widely globally known research paradigms are positivism, post-positivism, interpretivism and pragmatism. More often, positivist thinking is associated with quantitative research whereas qualitative leans more towards interpretivism (Creswell, 2003; Creswell and Creswell, 2018; Teddlie and Tashakkori, 2009). Post-positivism and pragmatism primarily have to do with mixed methods research approach (Pickard, 2013).

Research design constitutes a detailed plan of activities and conceptual organization aimed to address the research problem and attendant objectives (Rwegoshora, 2014). The most common research designs in social sciences include survey, case study, descriptive, experimental, action research, longitudinal, cross-sectional, qualitative, quantitative and mixed methods (Creswell, 2003; Pickard, 2013; Rwegoshora, 2014). Data collection methods/techniques include questionnaires, interviews, focus group discussions and observations (Pickard, 2013). Use of research techniques tends to depend on how they relate to the research topic at hand, theories, hypotheses tested and methodologies applied (Silverman, 2010). Population refers to people/objects with characteristics of interest to the researcher's study (Ngulube, 2005a). Then, sampling involves selecting a few respondents or a sample in a population who will be contacted to carry out empirical research (Pickard, 2013).

When conducting a study, researchers are concerned about validity and reliability (Connaway and Powell, 2010) primarily because the validity and reliability of research findings produce trustworthy research findings. The two main types of validity are internal and external validity. The former explains the 'truth' and credibility emerging from a given research whereas the latter describes how findings can be applied and generalized and replicated in a wider context (Creswell, 2003; Pickard, 2013). On the other hand, reliability entails proper choice of procedures and methods to ensure they consistently generate reliable data when repeated under the same research conditions with similar attributes over time.

Research ethical clearance procedures are crucial in helping postgraduate students conform to acceptable scientific data collection procedures and detect

possible mistakes that could affect data collection. Despite their important role, lengthy ethical clearance procedures tend to contribute to students avoiding human objects. The problem is more visible to students who seek to research in health organizations. Health-related researches seem to have demanding procedures which influence choice of research areas (Silverman, 2010). Thus, complex ethical clearance procedures may negatively influence choice of research questions and methods. In Tanzania, ethical clearance procedures in social sciences are not a major problem and they are coordinated by the research directorates.

### *Global LIS research methodology trends*

Globally, a number of scholars have conducted studies on research methodology in the LIS discipline. In particular, some studies have explored postgraduate students' understanding of research procedures in social sciences. A study in South Africa by Ngulube (2005b) investigated the Master's students' application of research methodology at the University of Natal from 1982 to 2002. The study found that students mostly used quantitative research procedures, with the survey being a dominant method.

Other studies on research methodology include those of Afzal (2006); Chen and Hirschheim (2004); Morris and Cahill (2017); Ngulube (2010, 2015); Ullah and Ameen (2018). These studies found survey design and quantitative methods to be extensively applied in LIS research. Though LIS scholars traditionally use quantitative approaches widely, Afzal (2006), Chen and Hirschheim (2004), Ngulube (2010) and Morris and Cahill (2017) noted an increase in the usage of qualitative and mixed methods approach in LIS research.

Despite the growth of the LIS discipline and volume of research undertaken, studies by Manda (2002) and Ngulube et al. (2009) noted LIS research conducted was largely weak, problematical and lacked methodological pluralism. Manda (2002) and Ngulube (2005b) observed that research strategies of LIS postgraduate scholars were the weakest in sampling and data analysis stages. Sampling problems include failure to indicate sample size and smallness of the sample deployed, how the sample size was drawn or not justifying the sampling frame which makes it difficult to draw conclusions from them.

Although the literature reviewed generally shows heightened use of the survey research design, other research designs such as the experiment, ethnography,

grounded theory, action research and case study feature the least in LIS research among the studies reviewed (Afzal, 2006; Chen and Hirschheim, 2004; Koufogiannakis and Slater, 2004; Morris and Cahill, 2017; Rochester, 2016).

Moreover, the literature review reveals some similarities and differences in use of methodologies globally. For example, Cheng (1996) and Mitthal (2011) in their studies conducted in Asia found historic methods and bibliometrics especially to be mostly used by LIS scholars whereas experiments and survey were the least used. Similar patterns emerged in Africa and Australia where Ngulube (2013) and Rochester (2016) also found historic methods to be among the most widely applied research methods among LIS scholars. In the US, Morris and Cahill's (2017) study, unlike most studies reviewed, found the qualitative method and mixed methods to be the most widely used among LIS scholars. Unlike the research conducted in Asia and Africa, this study indicated the least use of documentary/historic methods. In sub-Saharan Africa, Ngulube (2013) found mixed methods to be the least applied while the qualitative method was the most widely applied in LIS research.

Despite the studies reviewed (see, for example, Manda, 2002; Ngulube, 2005a, 2005b) indicating validity, reliability and response rate are crucial in generalization and trustworthiness of research findings, less attention and inadequate details are being given to these aspects among LIS scholars in general.

In terms of data analysis, the literature shows LIS scholars apply statistical methods in research (Ngulube, 2005b; Zhang et al., 2018); however, generally students have little knowledge on applying mathematical and statistical knowledge in research methodology (Daniel et al., 2018). In fact, in the last three decades, descriptive statistics has been predominantly used relative to inferential statistics (Ngulube, 2005b; Ullah and Ameen, 2018).

Although the literature found some similarities and differences in research methodology usage across the globe, a literature synthesis indicates extensive use of quantitative methods and survey, and least use of qualitative and mixed methods among LIS scholars. Usually, the choice of a research methodology scholars apply is influenced by factors such as researchers' experience, methodological orientation of the supervisor, familiarity with methods, lack of exposure, cost and the nature of the research inquiry (Bryman, 2006; Creswell, 2003; Daniel et al., 2018; Manda, 2002; Silverman, 2010).

## Methodology

This exploratory study aimed to investigate research methodology use among postgraduate students using bibliometrics methods. Data analysis focused on the dissertations/theses of the MAIS Programme at the University of Dar es Salaam. Data were collected from the University of Dar es Salaam research repository from May to November 2018 and analysis took place from December 2018 to May 2019. Data were captured by collecting and scanning the methodology chapter – the focal point of the analysis – from each dissertation/thesis for the period of 2000–2016. Three research assistants were involved in data collection and entry.

The study used bibliometrics to collect and analyse data. Bibliometrics is a study and analysis of publication patterns in all forms of written communication essentially to assess research productivity among scholars (Ani and Okwueze, 2017; Ngulube, 2005a). A number of LIS scholars (Abdoulaye, 2002; Ani and Okwueze, 2017; Mitthal, 2011; Ngulube, 2005a) have employed this method in their respective studies. In the current study, the method was used to analyse the methodology chapters of 120 completed MAIS dissertations/theses. The sample size used in the study was deemed appropriate as similar bibliometric studies made use of 20 and 81 theses in their analyses (see Abdoulaye, 2002; Ngulube, 2005a; 2005b). Quantitative data generated were analysed using Microsoft Excel software version 2007. The subsequent section presents and discusses the research findings.

## Research findings

This section presents and discusses key research concepts based on the study's research questions. The findings represent MAIS students' conception of key research concepts and not necessarily based on a particular scholar's categorization of the concepts. In particular, it describes MAIS students' understanding of research designs, approaches and data collection instrument. In addition, it covers sampling procedures, validity, reliability and response rate.

### Research design applied

Data show that the survey is the dominant design MAIS students applied in their researches whereas least used were either the qualitative or quantitative designs separately. The majority 51 (42%) used the survey and a few, two (2%) and two (2%), used qualitative and quantitative designs. Seventeen (14%) studies did not indicate any design. Moreover, there was no single study which had used the experiment,

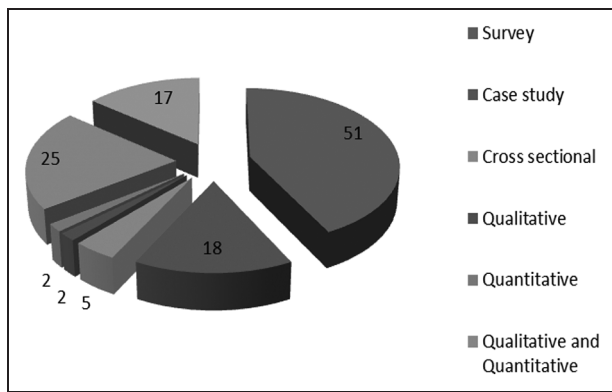


Figure 1. Research design applied.

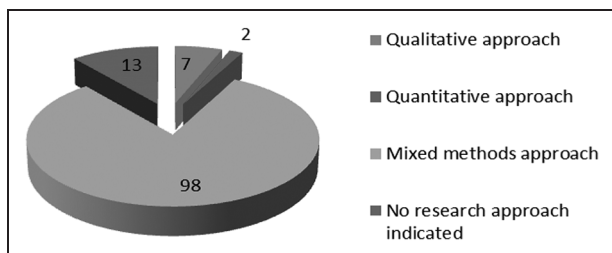


Figure 2. Research approach used

ethnography and review research design as Figure 1 illustrates.

### Research approach MAIS students use in data collection

The study also investigated the approach the postgraduate students applied in data collection. The results indicate that the majority, 98 (81.7%), of the students use a mixed methods approach. The fewest, two (1.7%), used the quantitative approach. The findings also show that 13 (10.8%) of the students did not indicate any approach applicable to their studies as Figure 2 illustrates.

### Research paradigms applied

The findings of the study found no study that had deployed or indicated an applicable research paradigm.

### Sampling procedures used

With regard to whether students can differentiate the types of sampling techniques applicable in research, the results show that, out of 120 dissertations/theses, only 51 (42.5%) dissertations indicated the type of sampling technique they used. The majority, 30 (25%) out of these 51 dissertations/theses had used probability sampling whereas 21 (17.5%) had applied

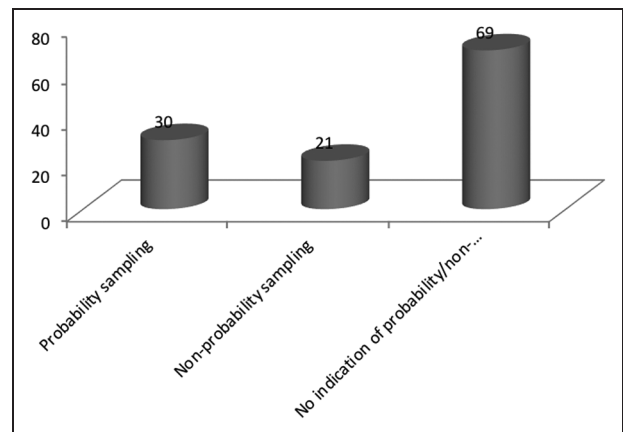


Figure 3. Indication of probability and non-probability sampling.

non-probability. The findings further show that most of the studies, 69 (57.5%), did not state the type of method they used as Figure 3 illustrates.

### Sampling techniques used

The assessment of the frequency of using probability and non-probability methods in research shows that non-probability sampling methods are mostly used, with purposive sampling (48.8%) being the dominant technique. Table 1 presents the results.

### Sample size

The results for the sample size used in research show that the majority, 104 (86.7%), of students did indicate the sample size of the study. However, 16 (13.3%) of their dissertations/theses did not specify the sample size used. Moreover, out of the 120 dissertations/theses only 48 (40%) justified the sample size, with the overwhelming majority, 72 (60%), not doing so. Moreover, the findings show that, among the studies which indicated the use of probability sampling technique, only one study indicated the use of a formula.

### Data collection methods

With regard to data collection methods of the students under study, the findings show that the majority of the postgraduate students, 111 (92.5%), mostly used the questionnaire survey in data collection followed by 95 (79.2%) who used interviews as Table 2 illustrates.

### Reliability, validity and response rate

The assessment of the use of reliability and validity among students revealed that only nine (7.5%) theses explained reliability whereas the majority, 111 (92.5%), did not. For validity, only eight (6.7%)

**Table 1.** Sampling methods postgraduate students apply.

Sampling technique	Frequency	Percentage	Ranking
Purposive sampling	102	48.8	1
Convenience sampling	43	20.6	2
Snowballing sampling	7	3.4	5
Quota sampling	–	–	7
Stratified sampling	8	3.8	4
Cluster sampling	4	1.9	6
Simple random sampling	41	19.6	3
Systematic random sampling	4	1.9	6

**Table 2.** Data collection methods.

Data collection instruments	Frequency	Percentage	Ranking
Questionnaire	111	92.5	1
Interview	95	79.2	2
Focus group	22	18.3	4
Observation	89	74.2	3

explained validity in relation to their studies whereas 112 (93.3%) had not. Moreover, results also show that, out of 120 theses assessed, 13 (10.8%) showed response rate but an overwhelming majority, 107 (89.2%), did not.

#### *Pre-testing of research instruments*

The results for the pre-testing of instruments prior to applying them in data collection indicate that the majority, 104 (86.7%), had pre-tested the research tools whereas 16 (13.3%) had not done so. Moreover, only 49 (40.8%) indicated the sample deployed for pre-testing while the majority 71 (59.2%) did not. Furthermore, only a few studies, 38 (31.7%), indicated their sample size for pre-testing whereas the majority, 82 (68.3%), did not do so.

#### *Data analysis methods*

The evaluation of the methods students used in analysing data found that the Statistical Package for Social Sciences (SPSS) and its later IBM variants was the most commonly applied software as evident in 50% of the dissertations/theses. The other method widely used was content analysis (36.7%) as Table 3 illustrates'

**Table 3.** Data analysis methods in use.

Method of analysis	Frequency	Percentage
Statistical Package for Social Sciences	98	50
Microsoft Excel	20	10.2
Predictive analytic software	1	0.5
Content analysis	72	36.7
Atlas i	2	1
NVivo	–	–
No data analysis indicated	3	1.5

#### **Discussion of findings**

The section discusses research findings based on the research questions.

#### *RQ 1: Research design applied*

The study has established that the survey, mixed methods and case study design were the designs most commonly used by the postgraduate students under review. These results imply that students largely use the quantitative approach in their research. In this regard, the questionnaire with closed-ended questions was the data collection tool of choice for most of the students when it came to data collection. These findings imply that LIS research still heavily relies on questionnaire surveys to investigate information user needs. It is indicative that for the past two decades LIS research primarily focused on understanding user information behaviour and information use. In fact, the two issues have remained crucial in explaining the foundations of the LIS discipline. Similarly, Afzal (2006), Chen and Hirschheim (2004), Ngulube (2015) and Ullah and Ameen (2018) had established the predominance of the survey in LIS researches. Survey design has been predominant over other designs as it relies on a representative sample, hence making it fairly quick and relatively cheaper to collect data than other methods (Pickard, 2013). The use of surveys by postgraduate students supports the notion that cost has a far-reaching implication for the researchers' use of a particular research methodology. The students' extensive use of the survey design and the application of the quantitative design may limit the growth of the LIS discipline largely because of failure to address adequately intricate issues affecting information behaviour (Afzal, 2006). Also, the study found the dominance of the survey in the LIS field to be related to that in other social science studies such as sociology (Bryman, 2006; Silverman, 2010), which have contributed to the construction of LIS theories.

Contrary to the present study that found heightened use of the survey method, Mitthal (2011) found surveys to be the least used in India compared to the historic design. Although Ngulube (2013) and Rochester (2016) found historic methods to be increasingly used in LIS, the method is least used in developing countries, particularly in Africa. Part of the reason behind this low application of the historic methods in the context of this study could be lack of bibliographic databases for research use (Mitthal, 2011). Indeed, access to such databases tends to foster the conducting of bibliometrics research.

Findings also show that students used the mixed methods design in research. These results imply that students are increasingly employing multiple designs in addressing research questions. Results on the use of case study design support the application of mixed methods by LIS students. The use of mixed method design, therefore, explicates that, despite the dominance of the use of quantitative methods, students apply mixed and qualitative design in research (Afzal, 2006; Ngulube, 2010). The use of the mixed design could be influenced by the purpose of the study or research questions (Daniel et al., 2018). Whereas the survey, mixed methods and qualitative design were indicated to be mostly used, ethnography, experiment, case studies and grounded research were found to be the least used among students. These results corroborate those of Afzal (2006), Chen and Hirschheim (2004) and Koufogiannakis and Slater (2004) who noted that these designs were least used among LIS scholars. The low use of qualitative methods was attributable to inadequate time, finance and knowledge to conduct such studies. In this regard, researchers need adequate skills and time to collect and analyse qualitative data (Silverman, 2010). Another plausible explanation could be the students' shunning of mixed methods and least use of qualitative methods primarily because of their being unfamiliar with the rigours of qualitative methods. Similarly, Daniel et al. (2018) found a lack of comprehensive knowledge among scholars on how to conduct research using a particular method to be one of the challenges postgraduates encounter in research.

The results also found a mixed understanding of research design across studies. It appears most of the postgraduates under review in this study conceptualize research design as survey, qualitative, quantitative, case study and cross-sectional. As a result, there was no study that indicated the use of longitudinal, ethnography, experiment, grounded theory and review design. There are two reasons that could explain these findings. One is an apparent confusion among social science scholars in conceptualizing a

research design. Some scholars describe a research design as longitudinal, descriptive, exploratory, explanatory, cross-sectional, experiment, ethnography, grounded theory and content analysis (Rwegoshora, 2014). Other scholars (see Pickard, 2013) comprehend research designs such as case studies, surveys, experiment, ethnography, action research, historical research as research methods. The confusion in LIS seems to be evident as it is an interdisciplinary field of study that borrows theories from other fields such as sociology, education and computer science. Daniel et al. (2018) also observed that the nature of an academic field can influence the choice of a type of research methodology. In this study, MAIS supervisors and students who have different academic backgrounds and disciplines found themselves in limbo when it came to applying a particular design based on their academic background. Simply put, they were limited when uncharted territories were the options in their research design and methods; as a result, they opted to tread on familiar ground.

Results also show that 14% of the studies did not indicate a research design at all. These findings suggest that students and supervisors had insufficient understanding of what a research design entails. In addition, the students' failure to indicate a research design could also explain the confusion in positioning the research design in the dissertation write-up. The findings are congruent with the challenge observed by Daniel et al. (2018), who found research methodology tutors who failed to link theoretical discussions on research methodology to related examples. Specifically, Manda (2002) observed that LIS scholars encounter challenges in conceptualizing research methodology regardless of the research design.

### *RQ 2: Research approach used*

Results also show that a mixed methods approach was preferred by most students with the separate application of qualitative and quantitative being the least. Findings imply that most of the postgraduates do not use a single approach in research and tend to combine qualitative and quantitative approaches in data collection. Despite using a combination of approaches being important in producing reliable data, the study results explain weaknesses among students in using the two approaches in research. In fact, the results shed light on two conspicuous issues pertaining to utilizing quantitative and qualitative approaches. One is lack of expertise and a clear and extensive understanding of each research approach and how to properly use them in research. Based on the authors' experience, it

is indicative that most of the students apply both approaches to avoid falling short of soliciting data from one approach. These results explain that most of the students under review lack adequate theoretical and practical knowledge to use one particular approach and justify its use (Daniel et al., 2018). As such, it appears that students' choice of a mixed approach is not informed by the epistemological, ontological or problem under study. It appears, therefore, that students are not very familiar with the mixed methods approach and tend to apply it to offset the weaknesses of using the qualitative or quantitative approach, respectively. Thus, results indicate that students simply combine these approaches but do not have a comprehensive understanding of how to apply the mixed methods research approach. In fact, findings did not indicate students' use of mixed methods research approaches either in parallel, sequential, concurrently, or integrating aspects of qualitative and quantitative approaches in identifying designs and methods used in the research, constructing research instruments, formulating the research questions and drawing conclusions as explained by Ngulube (2013) and Teddlie and Tashakkori (2009). As such, the study findings imply that students mostly apply the mixed methods approach for triangulation purposes and enriching of data interpretation (Ngulube, 2010). Overall, the current study results explain the existing knowledge gap in understanding the philosophical foundations and principles of the mixed methods approach.

From the analysis of the present findings and the authors' supervision experience it is obvious that postgraduates tend to apply a quantitative, qualitative or mixed methods approach without necessarily contemplating and aligning the research problem and research questions. In some cases, based on a particular study, a student may use a mixed methods approach while in fact, one approach would have been sufficient. As result, studies tend to weakly use the other secondary research approach. The major problem, therefore, hinges on LIS students' scanty knowledge and understanding of philosophical worldviews in relation to the research problem envisaged. The confusion on proper choice of the research approaches, especially mixed methods, explains why the majority of students fail to adequately apply the mixed methods research approach (Ngulube, 2013). As such, postgraduates in LIS generally refer to combining qualitative and quantitative approaches as mixed methods but do not comprehensively apply a specific mixed method approach in research.

### *RQ 3: Research paradigms*

There are four major paradigms in research: positivist, interpretivist, post-positivist and pragmatism. Understanding of these paradigms is crucial in framing the research problem, research question and methods for application in data collection. Paradigms provide researchers with a clear philosophical path on how to conduct research and explain the ontological, epistemological and methodological stance to be taken by a researcher. Despite the role researchers' understanding of paradigm in research plays, this study did not find any study that leaned on a particular paradigm. Based on the current study findings, failure of postgraduates to indicate paradigms can result in confusion as students do not take a position from the outset of the research on the paradigm(s) and research approach to inform the study. For instance, quantitative methods are often associated with positivism, post-positivism with both quantitative and qualitative, whereas qualitative approaches are often related to a constructivism/interpretivism paradigm (Creswell, 2003; Ngulube, 2013).

Challenges to acquiring a stand at the beginning of a research project may result in another problem of a student falling short of correctly taking a position and choice for the study by explaining whether a study embraces a positivist, interpretivist or pragmatist approach and narrating the dominant paradigm and method for application. In this regard, results indicate that there was insufficient understanding of how students and supervisors view the world (ontological perspective), devising ways of identifying valid knowledge (epistemology) which results in poor choice of a method. This study found non-use of paradigms in research also explains the observed weaknesses of students in justifying the reason to select a qualitative, quantitative or mixed methods approach. The lack of explanations on paradigm by students explains why students' choice of a research method is mainly informed by the familiarity, experience and comfortability of that method but is less influenced by the nature of the problem and ontological beliefs (Daniel et al., 2018).

### *RQ 4: Sampling procedures*

The majority, 30 (25%), postgraduates' dissertation/theses indicated the use of probability sampling compared to 21 (17.5%) that indicated the use of the non-probability method. These findings show that students applied more probability methods in data collection than non-probability ones. Use of probability strengthens research as findings can be generalized and inferences made. However, the current results

differ from a similar Tanzanian study by Manda (2002) who found probability and non-probability methods to be equally used among LIS scholars, hence the limited inference expected to be drawn from the findings. The findings could indicate an increased use of probability sampling by the postgraduate students.

Despite 51 dissertations indicating the type of sampling used, the majority (69; 57.5%) failed to indicate the type of sampling method applied. These findings could imply that students did not sufficiently understand the difference between the two types of sampling techniques. Based on the researchers' experience, students appeared generally aware of the various types of sampling methods collectively but failed to differentiate adequately and position each method as to whether it was a probability or non-probability sampling method. One reason could be that research methodology at the postgraduate level is being taught at an abstract level and, as a result, students failed to link theory with relevant examples when undertaking research (Daniel et al., 2018). In fact, one study (case 58) misinterpreted how to conduct snowballing sampling in a well-defined sample whereby the census method was deemed appropriate for data collection. Manda (2002) found the non-use of the census method as no scholar had applied the census method in data collection. Daniel et al. (2018) observed that choosing an appropriate sampling strategy was a problem most students faced when conducting research.

Despite the majority (69) of the dissertations/theses not indicating the type of sampling applied, previous results on sampling methods students used indicate heightened use of non-probability sampling methods in research. In this regard, the results of this study found purposive and convenience as the most common non-probability sampling methods used, with simple random and stratified sampling being the most preferred probability methods among the postgraduates. These results are consistent with those of the study by Ngulube (2013) that also found that purposive sampling was extensively used in scholarly communication. Based on these findings, it is evident that postgraduates under review seem to be less inclined towards the use probability sampling than non-probability sampling techniques. A number of reasons could explain this heightened use of non-probability sampling. To begin with, conducting probability sampling is expensive and so demanding that it needs a complete list of subjects to be studied coupled with an understanding of statistical/mathematical application (Rwegoshora, 2014).

In addition, accessing complete names of respondents to be researched upon also needs time and adequate resources that most of the Master's students generally lack. Students also resort to using purposive and convenience non-probability sampling to end up with information-rich cases of interest (Pickard, 2013; Rwegoshora, 2014, Silverman, 2010). Second, little knowledge on research methodology concepts and application of statistical and probability sampling methods was another factor. It was apparent that students lacked a clear understanding of the types of methods applicable in sampling, shedding light on heavy use of similar methods such as purposive and convenience in sampling entities. The least use of statistical methods by LIS students are supported by Manda (2002) and Ullah and Ameen (2018) and applies to both developing and developed countries (Daniel et al., 2018). Increased use of non-probability methods among LIS students and less use of statistical methods makes it difficult for a researcher to provide reliable findings and draw valid conclusions. These findings, therefore, indicate that LIS students mostly conduct explanatory rather than exploratory type of researches that test for causality. Similar findings were observed by Manda (2002).

#### **RQ 5: Determining sample size**

The research findings also show that most (86.7%) of the students did indicate the sample size when conducting research. Nonetheless, only a paltry 13.3% of the studies did not even specify the sample size they had used. These findings are in line with those of Manda (2002) who found that the majority (71%) of LIS studies indicated sample size in data collection but 20% of the articles did not do so. As sample size is crucial in generalization, validity and transferability of the findings (Silverman, 2010); lack of sample size in research tends to reduce the validity of the findings. Moreover, poor quality findings cannot be generalized to a wider population and can affect the growth of the LIS discipline.

Although the majority of the studies cited sample size used, only less than half provided a justification for such sample sizes. In fact, the majority (60%) of the studies did not justify the choice of sample size used. This challenge explains another major problem in LIS research among postgraduates, which hints at how the sample was drawn. In South Africa Ngulube (2005b) found that the majority (20; 83%) of the studies did not indicate how their samples were drawn. The findings imply that there is a lack of understanding of research sampling procedures among postgraduates when answering a research inquiry. It appears

that the students are not aware of the significance of justifying the sample selected, elaborating the reason behind choosing a certain sample size and explaining how the samples are drawn. These results are consistent with those of Daniel et al. (2018). The current findings also reveal the challenges to producing valid knowledge and generalization of results for a wider population (Manda, 2002; Ngulube, 2013).

#### *RQ 6: Data collection instruments utilized*

Findings also show that the questionnaire, interviews and observation are the instruments mostly used in collecting data. The results resonate well with the current study's prior findings which showed the dominance of quantitative and survey methods in data collection. The present results on the heightened use of questionnaires in LIS research was also observed by Afzal (2006), Manda (2002) and Ngulube (2005a), confirming the high application of quantitative methods in LIS. Extensive use of the questionnaire survey by the postgraduates in collecting data is linked to the need to cover a large study area and population in a relatively shorter time economically while producing unbiased, reliable and valid information (Manda, 2002; Rwegoshora, 2014).

Nevertheless, the results also highlight increased use of qualitative data collection methods in LIS research. Current findings indicate that the use of qualitative data collection methods is contrary to those observed by Manda (2002) in Tanzania. It appears the shift from non-use of qualitative methods in data collection in the LIS discipline in Tanzania in the last decade to be attributable to the students and supervisors being exposed to other research methodologies, research topics and inquiries. Based on the authors' supervision experience, students tend to use a similar research approach and related LIS topics with little understanding of the link between the research questions and the inquiry at hand. Silverman (2010) explains that the research problem influences the choice of a method but not the topic. These results are also supported by those of Daniel et al. (2018) who underscored the value of the methodological orientation of the supervisors and nature of research problems in influencing the choice of a research methodology of students. Moreover, findings on the use of interviews and observation explain why the case study was one of the highly used research designs among the postgraduates. In the same vein, Afzal (2006) observed that participant observation, interviews and case studies were increasingly being used in LIS research, hence indicating a paradigm shift in LIS research relative to findings by Manda (2002).

#### *RQ 7: Reliability, validity and response rate*

The results on reliability and validity are quite mind-boggling. The results indicate low description on issues of validity and reliability in LIS research. Manda (2002) similarly found validity and reliability to be the least used among LIS scholars. Though Manda's (2002) study was conducted about two decades ago, issues of validity and reliability appear not to have been clearly understood or applied in LIS research. These findings resonate with those of Manda (2002) to the effect that issues of validity and reliability are least reflected in LIS education or are poorly understood. This paradox raises an important question on generalization and trustworthiness of findings from LIS studies.

Moreover, study findings were mind-boggling as only 13 studies out of 120 indicated the response rate. The results also imply that students were not aware of the essence of response rate as imperative in establishing validity and reliability as well as the generalization of the research findings. Ngulube (2005b) also found response rate was least indicated by the Master's students in South Africa. Similarly, postgraduates in New Zealand and Malaysia faced challenges in dealing with response rates (Daniel et al., 2018).

#### *RQ 8: Instruments pre-testing*

The study findings of the current research also indicate that postgraduates pre-tested their research instruments prior to administration in the field. Despite the majority (86.7%) pre-testing the instruments, the studies do not provide adequate details on the pre-testing process. For instance, the majority of the studies did not indicate the sample involved in pre-testing (59.2%) and neither did they clearly explain the sample size (68.3%). In fact, results indicate that the postgraduates under review had little grasp of the importance of pre-testing the research instruments in fostering reliability and bolstering construct and internal validity of a given research undertaking. Lack of proper pre-testing of instruments can have a negative impact on LIS research as scholars may produce findings that cannot be replicated, which can also end up being least trusted due to their poor design. A lack of details on pre-testing signals that researchers were unable to measure the scores generated from instruments on validity and reliability. The failure of studies to indicate validity and reliability may lead to less trustable findings and generalization (Creswell, 2003) as instruments used in data collection could fail to capture requisite data, let alone produce invalid results. This failure may threaten the development and steady growth of the LIS theory and



discipline. In this regard, Manda (2002) also found that the poor design of research methodology resulted from lack of pre-testing, which is one of the important attributes affecting theory construction and development in a given field.

### **RQ 9: Data analysis methods applied**

The findings show that SPSS was the data analysis method applied by most of the postgraduates followed by content analysis. The application of these methods reaffirms the dominance of quantitative methods in LIS research. Despite the findings showing the use of statistical analysis by the postgraduates, studies applied mostly simple descriptive statistical methods relative to inferential statistics. Descriptive statistics used include frequencies and cross-tabulation. In fact, from the findings and researchers experience most studies apply frequencies in analysis compared to chi-square, correlation and regression analysis. The results are in line with those of Ngulube (2005b) and Ullah and Ameen (2018) who also found LIS scholars to use descriptive statistics rather than inferential statistics. In addition, Manda (2002) observed that univariate analysis was the dominant analysis method LIS African scholars applied. There are two reasons to explain the low use of inferential statistics. One is the lack of expertise among LIS students on the use of complex statistical methods in research, manifested in the lack of adequate statistical training encountered in their curriculum. More than 15 years since Manda's (2002) study, most LIS students paradoxically have still not been trained in using advanced data analysis techniques. In fact, dominance in the use of simple rather than complex data analysis methods seems to be attributable to the heavy use of non-probability methods, which do not require large sample size in reaching a conclusion, unlike probability sampling. Second, lack of guidance from supervisors, particularly those who appeared not to be competent in statistical analysis was another impediment. In this regard, Daniel et al. (2018) found scholars in both developing and developed countries to face challenges in applying mathematical methods in research in addition to lacking statistical knowledge.

As research methods tend to be inclined towards a specific discipline (Daniel et al., 2018), increased use of qualitative methods in LIS research appears to shed some light on new research methodology trends and emerging topics (Elia and Sife, 2018) related to user behaviour towards addressing the needs of information users. As LIS is an interdisciplinary discipline, it appears to undergo a shift from traditionally widely used approach such as quantitative towards exploring

new research methods and inquiries in the quest to address social problems. As such, compared to the previous research (Morris and Cahill, 2017; Ngulube, 2015; Ullah and Ameen, 2018), the use of a qualitative and mixed methods approach seems to gain ready acceptance in LIS research (Afzal, 2006; Chen and Hirschheim, 2004; Morris and Cahill, 2017; Ngulube, 2010). Moreover, as findings indicate only one study applied software in data analysis, there appears to be a lack of knowledge on the use of qualitative analytical software in LIS. The findings also explain the problem of insufficient training on the use of qualitative software in data analysis.

### **Conclusion and recommendations**

Based on the findings, the study established that there is a mixed understanding of research methodology practices among postgraduates in the LIS discipline. In fact, students lack adequate knowledge on applying a specific research approach based on the problem at hand. Research design remains unclear among LIS postgraduate students while sampling remained problematical. There is a lack of clear synchronization of the research methodology components in relation to the paradigm used. Insufficient research methodology knowledge threatens theory construction, generalization of findings and advancing of LIS research. Moreover, there is less use of advanced qualitative and quantitative data analyses. Based on research findings, the study calls for postgraduate students to have specialized scientific writing training. The study recommends more contact hours through online tutorials and hands-on exercises to promote the understanding of research methodology. The study also suggests advanced training among LIS postgraduate students to include qualitative and quantitative data analysis. The study also recommends training on information searching, knowledge mapping and problem-based learning. The study further recommends that the curriculum should incorporate advanced statistical methods to enhance the use of qualitative and quantitative research methods. Multi-disciplinary research training should be encouraged among postgraduate students to identify new topics and diversify research approach. In addition, the study recommends that an empirical study be conducted among postgraduates in Information Studies to foster their understanding and use of research methodology.

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# TETFund intervention in the provision of library resources in academic libraries in Nigeria

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## Abstract

This study investigated the intervention of TETFund in the provision of library resources in academic libraries in Imo State, Nigeria. It was guided by four research questions and three null hypotheses. The study adopted a survey research design with a questionnaire as the research instrument. The population of the study was 105 professional and para-professional library staff at two universities in Imo State. The findings show that TETFund intervenes to a high extent in the provision of information resources at the two universities studied. The study recommends that concerned government ministries should monitor the activities of TETFund to ensure that universities benefit equally, and that TETFund should be mandated to make the processes simpler. The researchers also recommend that TETFund organize conferences to educate institutions on the need and processes to access funding and benefit from TETFund.

## Keywords

TETFund intervention, library resources, academic libraries, Imo State

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## Introduction

TETFund is an intervention agency which was set up to provide supplementary support to all levels of public tertiary institutions with the main objective of using funding alongside project management for the rehabilitation, restoration and reconsolidation of tertiary education in Nigeria, (Bamigboye and Okonedo-Adegbeye, 2015). Academic libraries lack the significant financial outlay required to provide scholars and researchers with the wide range of communication technologies that are necessary for the quick retrieval of information from immediate and remote databases. Since they find it difficult to design modern information services, maintain buildings, service equipment, train staff and pay their bills, the federal government established the Tertiary Education Trust Fund (TETFund) in a National Assembly Act in June 2011.

The main source of income available to TETFund is the 2% education tax that is paid from the assessable profits of companies registered in Nigeria. The

levies are collected by the Federal Inland Revenue Service. If the funds from TETFund could be utilized effectively in Nigerian educational institutions, including for the development of academic libraries, there would be a high level of improvement in the collections of information resources in libraries. Information resources are the books and non-book materials, and also e-resources, in a library (Nnadozie, 2013). Book materials include textbooks, journals, periodicals, encyclopaedias and dictionaries. Non-print information sources include other resources which library patrons make use of when they visit the library, such as audio-visual materials, e-books, e-journals and the Internets. Information resources are very important in a library. According to Nwosu and Udo-Anyanwu (2015), the

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core of a library is its collection. Its pivotal place is enshrined in the basic mandate of libraries to stock information materials to meet the needs of their users.

In the case of human resources, TETFund intervention is one of the basic ways of enhancing staff development. In Nigeria, many staff in tertiary institutions have been trained locally and internationally through TETFund financing. This means that staff development is one of the basic benefits of TETFund. Based on the foregoing, TETFund is being used in infrastructural development, such as the modernization and improvement of information and communications technologies (ICTs), the acquisition of modern technology and library equipment, and the acquisition of recent books and non-books materials. For this reason, Ubah (2016) states that the TETFund intervention was introduced to improve infrastructural and human capital development in educational institutions. If this is to be achieved, libraries should not be neglected.

There are many challenges confronting TETFund's financing of academic libraries. After receiving funds from TETFund, some school management teams find it difficult to allocate the required proportion to their academic library to ensure its development. Sometimes, when funds are allocated, their effective utilization becomes a problem because some library staff are not professionally trained. The development of libraries in developing countries like Nigeria has been observed to be a Herculean task, brought about by inadequate official support coupled with dwindling financial allocations. The acquisition of resources for libraries is the basic foundation for library development, but federal funding, which provides critical assistance to libraries through their parent institutions, is inadequate. According to Okonofua (2011), a lack of funding is the principal challenge faced by most Nigeria tertiary institutions, which limits their ability to be rated highly in global rankings of educational institutions. Okonofua remarked that, as long as the government remains the major source of funding, there will continue to be funding gaps from government sources due to the increasing number of government-funded organizations. Likewise, libraries, just like other arms of institutions, are striving to source funds.

Chisenga (2000: 27) states that 'many libraries in Sub-Saharan Africa, including tertiary institutions' libraries, just depend entirely on government funding for their operations which is no longer adequate'. This has prevented academic libraries from working out any reasonable acquisition programmes, and TETFund has thus become very important in library resources development. The need to utilize TETFund financing effectively in the acquisition of library resources

and overall development of an academic library is important – especially in the two libraries under study here. It is against this backdrop that this study on the influence of TETFund intervention on the provision of library resources and services in academic libraries is being carried out.

### Statement of the problem

Libraries are essential in institutions of higher learning. They are seen as social institutions that do not generate funds. However, the fact that libraries require adequate funding to provide the necessary information resources, facilities, effective service and training of staff cannot be disputed.

TETFund was established to assist in the funding of higher education institutions in Nigeria. With this, one would have thought that the problem of funding public higher education institutions in Nigeria, and their libraries in particular, would have been a thing of the past. But the situation on the ground suggests that academic libraries are still not fully enjoying the benefits of this funding. The researchers therefore wonder if the funding given to higher education institutions by TETFund is not adequate to assist in the provision of information resources, library equipment and facilities, staff training and library services. Could it be a result of the inadequate disbursement of the financial interventions from TETFund? Could it be the attitude of university management? Could there be a diversion of the library funds to other programmes in universities? Or could it be a matter of the unprofessional attitudes of librarians with regard to financial management? The need to clarify these issues prompted this study.

### Research questions

Based on the research purposes, the following research questions were posed for the study:

1. What is the extent of TETFund intervention in the provision of information resources at the Federal University of Technology, Owerri (FUTO) and Imo State University, Owerri (IMSU) libraries?
2. What is the extent of TETFund intervention in the sponsorship of staff training at the FUTO and IMSU libraries?
3. What is the extent of TETFund intervention in the provision of library facilities at the FUTO and IMSU libraries?
4. What are the challenges encountered in accessing TETFund interventions by the FUTO and IMSU libraries?

## Hypotheses

The following hypotheses were formulated for the study at a 0.05 level of significance:

Hypothesis 1: The mean rating of the extent of TETFund intervention in the provision of information resources is not significant at the FUT0 and IMSU libraries.

Hypothesis 2: The mean rating of the extent of TETFund intervention in and sponsorship of staff development is not significant at the FUT0 and IMSU libraries.

Hypothesis 3: The mean rating of the extent of TETFund intervention in the provision of library facilities is not significant at the FUT0 and IMSU libraries.

## Literature review

TETFund was established as an intervention agency under the Education Tax Act No. 7, 1993. The Tertiary Education Trust Fund (Establishment, etc.) Act, 2011 (TETFund Act) repealed the Education Tax Act Cap. E4, Laws of the Federation of Nigeria, 2004 and the Education Tax Fund Act No. 17, 2003 and established TETFund, which is charged with the responsibility for managing, disbursing and monitoring the education tax to public tertiary institutions in Nigeria. The Education Tax Act No. 7, 1993 mandated that TETFund operate as an intervention fund for all levels of public education (federal, state and local). This mandate was discharged faithfully between 1999 and May 2011, when the Education Tax Fund Act No. 17, 2003, was repealed and replaced by the Tertiary Education Trust Fund Act, due to lapses and challenges in operating the Education Tax Fund.

TETFund (2011) outlined the lapses and challenges thus: the Education Trust Fund was overburdened and overstretched, and could only render palliative support to all levels of public educational institutions in Nigeria; the duplication of the functions and mandates of other agencies set up after the Education Trust Fund, such as Universal Basic Education and the Millennium Development Goals; and the decay and dilapidation of facilities in tertiary education continued to be an issue, as funding was spread thinly spread. To enable TETFund to achieve the above objectives, the TETFund Act, 2011 imposes a 2% education tax on the assessable profits of all registered companies in Nigeria. The Federal Inland Revenue Service is empowered by the Act to assess and collect the education tax. TETFund administers the

tax imposed by the Act and disburses it to tertiary education institutions at the federal and state levels. It also monitors the projects executed with the funds allocated to beneficiaries.

The mandate of TETFund, as outlined in section 7(1) (a) to (e) of the TETFund Act, 2011, is to administer and disburse funding to federal and state tertiary education institutions, especially for the provision and maintenance of the following: essential physical infrastructures for teaching and learning; instructional material and equipment; research and publication; academic staff training and development; and any other needs which, in the opinion of the Board of Trustees, are critical and essential for the improvement of quality and maintenance of standards in higher education institutions.

From the above, it is clear that TETFund's primary objective was to generate additional income to support tertiary education and provide scholarships and grants for needy but promising students, attempting not only to strengthen and diversify the economic base of higher education institutions in Nigeria, but also to redirect their resources towards improving the productivity and quality of higher education.

Many authors have examined the concept of academic libraries. Reitz (2004) sees academic libraries as an integral part of colleges or other institutions of post-secondary education, which are administered to meet the information needs of their students, faculty and staff. Academic libraries are the lifeblood of institutions of higher learning because they help the members of the academic community to achieve the objectives of teaching and learning (Anyanwu, 2016). Nwosu and Udo-Anyanwu (2015) state that academic libraries are purpose-driven organizations. They are the major support infrastructure for the tripartite function of higher education: teaching, research and extension.

The core of a library is its collection. Academic libraries are libraries attached to tertiary institutions such as universities, polytechnics, colleges of education, colleges of agriculture, colleges of technology and research institutes (Akporhonor, 2005).

In Abubakar's (2011) view, academic libraries are at the forefront of providing information services to their respective communities – students, lecturers and researchers – in order to support their teaching, learning and research needs. Scholars have emphasized the crucial role of academic libraries in research and scholarship in institutions of higher learning. Academic libraries are often referred to as the heart or nerve centre of institutions of higher learning, around which all academic activities revolve.

Academic libraries in Nigeria suffer from poor funding. This is because they are operating in an era of economic recession where resources (financial and material) are not forthcoming. Nigerian academic libraries derive the greater part of their funds from the government (both federal and state). Okiy (2005) notes that of all the different types of libraries in Nigeria, only university libraries have a clearly defined policy of funding because they are allocated 10% of the recurrent annual budget of their parent institution. However, it is regrettable that such monies are not forthcoming as most university administrators tend to flout that rule (Okiy, 2005; Yetunde, 2008). This persistent situation probably informed the government's decision to review the previous Education Tax Act No. 7, 1993, as amended by Act No. 40 of 1998, and replace it with the present TETFund Act of 2011 to cater for tertiary institutions specifically.

The situation in private universities also tends to portray a gloomy picture as the story is the same. Yetunde (2008) observes that, in most private universities in Nigeria, the founder and board of trustees usually determine the share of the university library's budget, which in most instances is inadequate. This affects the efficiency and effectiveness of the library's functions.

There are difficulties with importing books and journals from abroad due to increases in foreign exchange rates. This has deterred many academic libraries from acquiring current and relevant titles that will support the academic programmes of their parent institutions. Thus, the efforts of most academic libraries in providing modern information services are thwarted by this problem whose genesis is in inadequate funding.

### **TETFund intervention in academic libraries**

The present financial straits into which Nigerian academic libraries have fallen are in sharp contrast with the situation during the decade of the oil boom. Adequate funds were made available to academic and other libraries in the country from the revenue that was flowing into the country's treasury through crude-oil sales. This was reflected in the construction of imposing library buildings and the increased frequency of acquisitions, as well as the quality of the new books, journals and other scholarly publications. However, the decline of Nigeria's economy, which became evident from the early 1980s, naturally took an enormous toll on the funding of these libraries. As the government's financial receipts declined, the once booming economy nosedived and, as a consequence, it became increasingly difficult to access sufficient funds for libraries, education and other social services.

As a result of the struggling economy, caused by the world oil glut and poor internal management of resources since the 1980s, the funding of Nigeria's academic institutions and their libraries became a problem (Agboola, 2002). The importance of funding for providing quality library services cannot be overemphasized. It is the glue that holds the library building, collection and staff together, and allows the library to attain its goals. As such, money can be considered the soul of a library; inadequate funds impede the effectiveness of any library (Anafulu, 1997).

It can be argued that the government has been unable to offer the expected financial support to education and libraries as a whole. Recognizing this fact, foundations and bilateral and multilateral funding agencies have shown great interest in providing support to libraries through their various organizations. Libraries have been able to benefit from funding opportunities ranging from the capacity-building of library personnel to the provision of ICT facilities and databases (Whyte, 2004).

TETFund has intervened in so many areas in the development of academic libraries in Nigeria. It is a fact that TETFund funds have been used to provide numerous current local and foreign textbooks, journal materials and other publications at IMSU library, FUTO library and beyond, especially during accreditation (Ubah, 2016).

Nnadozie (2013) observes that TETFund is always used for the selection and acquisition of information resources in academic libraries, and that many higher education institutions utilize TETFund for purchasing books and non-book materials, especially during the accreditation period. For example, in 2011 and 2013, TETFund was used to purchase many local and foreign books especially during the accreditation period. Agunbiade (2006) highlights various library projects that have been funded by TETFund under the library development programme, including the computerization of libraries; provision of books, journals and reading materials; provision of equipment – for example, binding materials and equipment; and, in some cases, the provision of library buildings. This means that academic libraries have benefited significantly from the use of TETFund financing. In most universities, polytechnics and colleges of education, TETFund has added value in promoting the effectiveness of collection development (Ohadinma, 2015). Ohadinma notes that the procurement of information resources was neglected before the effective utilization of TETFund, hence TETFund has added significant value in the procurement of books and non-book materials.

**Table 1.** Provision of information resources at the FUTO and IMSU libraries.

Serial Number	Item statements	IMSU ( <i>n</i> = 27)			FUTO ( <i>n</i> = 78)		
		Mean	Standard deviation	Remark	Mean	Standard deviation	Remark
1	Textbooks	3.15	0.90	High extent	3.12	0.87	High extent
2	Serials	2.52	0.75	High extent	3.09	0.78	High extent
3	E-resources	2.96	0.52	High extent	2.92	0.80	High extent
4	Reference materials	2.85	0.72	High extent	2.97	0.84	High extent
5	Audiovisuals	3.04	0.85	High extent	2.95	0.79	High extent
	Grand mean	14.52	1.99		15.05	3.12	

**Table 2.** Calculated *t*-value and critical *t*-value of the extent of TETFund intervention in the provision of information resources.

Group	<i>n</i>	Mean	Standard deviation	Calculated <i>t</i> -value	<i>df</i>	Critical <i>t</i> -value	Decision
IMSU	27	14.52	1.99	0.825	49.75	2.000	Null hypothesis is accepted
FUTO	78	15.05	3.12	0.825	49.75	2.000	

## Methodology

The study used a survey research design. The population comprised 105 professional and para-professional staff at IMSU library (27) and FUTO library (78). A census enumeration technique was used to adopt the entire population as the sample for the study. The instrument used for data collection was a questionnaire with interview questions.

The questionnaire was administered personally by the researchers by hand and in face-to-face contact. The completed copies of the questionnaire were collected by the researchers in person in order to be sure that the respondents had completed the instrument. The exercise lasted for a period of two weeks. The data collected was analysed using descriptive statistics – mean and standard deviation. Any variable with a mean of 2.50 and above is considered positive, while variables with a mean below 2.50 are considered negative. The significance of the hypotheses was tested at the 0.05 alpha level using *t*-test statistical tools. The decision rule is if the *p*-value  $\leq$  0.05, the null hypothesis is rejected and the alternative hypothesis is accepted.

## Results

*Results of analysis of the first research question: What is the extent of TETFund intervention in the provision of information resources at the FUTO and IMSU libraries?*

Table 1 presents the item-by-item means and standard deviations for the extent of TETFund intervention in

the provision of information resources at the FUTO and IMSU libraries. All of the items in Table 1 have means above the criterion mean of 2.50. Also, approximating the means gives 3.00, indicating the high extent of the intervention at both the FUTO and IMSU libraries. This shows that TETFund intervenes to a high extent in the provision of information resources at the two universities. The overall or grand mean is 14.52 for IMSU, with a standard deviation of 1.99, while at FUTO it is 15.05, with a standard deviation of 3.12. The researchers observed that TETFund intervenes in the provision of textbooks, serials, e-resources and reference materials, but not in the provision of audiovisuals.

*Results of analysis of the first hypothesis: The mean rating of the extent of TETFund intervention in the provision of information resources is not significant at the FUTO and IMSU libraries*

Presented in Table 2 is the *t*-test of significance regarding TETFund intervention in the provision of information resources at IMSU and FUTO libraries. From Table 2, the mean rating scores for IMSU and FUTO are 14.52 and 15.05, respectively, while their respective standard deviations are 1.99 and 3.12. The calculated *t*-value is 0.825, while the critical *t*-value is 2.000 at a 49.75 degree of freedom and 0.05 level of significance. Since the calculated *t*-value is less than the critical *t*-value, the null hypothesis is upheld. Therefore, the mean rating of the extent of TETFund intervention for the provision of information resources at FUTO and IMSU is not significant.



**Table 3.** Sponsorship of staff training at the FUTO and IMSU libraries.

Serial Number	Item statements	IMSU (n = 27)			FUTO (n = 78)		
		Mean	Standard deviation	Remark	Mean	Standard deviation	Remark
1	Study visit	1.44	0.51	Low extent	3.49	0.70	High extent
2	In-service training	3.19	0.56	High extent	3.44	0.50	High extent
3	On-the-job training	1.41	0.50	Low extent	2.27	0.62	Low extent
4	Training programmes by international organizations	2.81	0.88	High extent	3.03	0.58	High extent
5	Institutional training programmes	3.56	0.64	Very high extent	3.53	0.50	Very high extent
6	Conferences, seminars and workshops	2.56	1.09	High extent	3.40	0.59	High extent
7	Short courses	2.67	0.68	High extent	2.83	0.90	High extent
8	Overseas professional degree programmes	2.70	0.78	High extent	3.29	0.46	High extent
	Grand mean	20.33	2.17		25.27	1.98	

**Table 4.** Calculated t-value and critical t-value of the extent of TETFund intervention in the sponsorship of staff training.

Group	n	Mean	Standard deviation	Calculated t-value	df	Critical t-value	Decision
IMSU	27	20.33	2.17	10.900	37.62	1.671	Null hypothesis is rejected
FUTO	78	25.27	1.98	10.900	37.62	1.671	

*Results of analysis of the second research question: What is the extent of TETFund intervention in the sponsorship of staff training at the FUTO and IMSU libraries?*

Table 3 presents the item-by-item means and standard deviations for the extent of TETFund intervention in the sponsorship of staff training at the FUTO and IMSU libraries. All of the items in Table 3 have a mean above the criterion mean of 2.50, except for Items 1 and 3. The librarians at IMSU and FUTO agreed with all of the items but disagreed on Item 1. The reason for the difference here could be attributed to the level of the management's commitment to staff development matters at the two universities. While the librarians at IMSU rated Item 1 as 'low extent', with a mean rating of 1.41, the librarians at FUTO rated it as 'high extent', with a mean rating of 3.49. Item 5 has the highest rating by both IMSU and FUTO librarians because it is rated as 'very high extent'. The Item 5 statement relates to sponsorship of 'institutional training programmes'. In the interview carried out by the researchers, the university librarians accepted that TETFund intervenes in staff training in the areas of PhD and Master's degree programmes and IFLA conferences, but to a low extent.

*Results of analysis of the second hypothesis: The mean rating of the extent of TETFund intervention in and sponsorship of staff development is not significant at the FUTO and IMSU libraries*

Table 4 presents the *t*-test of significance for the extent of TETFund intervention in sponsorship of staff training at the FUTO and IMSU libraries. The data in Table 4 shows that the calculated *t*-value is 10.900, while the critical value of *t* is 1.671 at a 37.62 degree of freedom and 0.05 level of significance. Therefore, the null hypothesis, which states that 'the mean rating of TETFund intervention in and sponsorship of staff training is not significant at the FUTO and IMSU libraries' is rejected. The researchers conclude that there is a significant gap between the extent of TETFund intervention and sponsorship of staff training at the FUTO and IMSU libraries.

*Results of analysis of the third research question: What is the extent of TETFund intervention in the provision of library facilities at the FUTO and IMSU libraries?*

Presented in Table 5 are the item-by-item mean and standard deviation ratings for the extent of

**Table 5.** Provision of library facilities at the FUTO and IMSU libraries.

Serial Number	Item statements	IMSU (n = 27)			FUTO (n = 78)		
		Mean	Standard deviation	Remark	Mean	Standard deviation	Remark
1	Display stand/racks	1.59	0.69	Low extent	1.88	0.66	Low extent
2	Office chairs and tables	3.04	0.85	High extent	3.06	0.61	High extent
3	Reading chairs and tables	3.52	0.51	Very high extent	3.55	0.55	Very high extent
4	Study carrels	2.89	0.70	High extent	2.95	0.62	High extent
5	Shelves	2.96	0.59	High extent	2.77	0.92	High extent
6	Bulletin boards, suggestion box	1.96	0.81	Low extent	2.07	0.58	Low extent
7	Computers	2.81	0.83	High extent	2.82	0.75	High extent
8	Library building	2.07	1.00	Low extent	1.90	0.77	Low extent
9	Dehumidifiers and air conditioners	1.93	0.68	Low extent	1.97	0.85	Low extent
10	Catalogue cabinets	2.81	0.74	High extent	3.19	0.70	High extent
11	Sound-proof generators	2.00	0.88	Low extent	1.97	0.81	Low extent
12	Binding machines	1.67	0.62	Low extent	1.79	0.71	Low extent
13	Public address system	1.56	0.58	Low extent	1.87	0.73	Low extent
14	Multimedia projector	2.04	0.59	Low extent	1.82	0.68	Low extent
15	Internet facilities	2.19	0.68	Low extent	1.73	0.57	Low extent
	Grand mean	35.04	3.50		35.37	3.58	

**Table 6.** Calculated *t*-value and critical *t*-value of the extent of TETFund intervention in the provision of library facilities.

Group	<i>n</i>	Mean	Standard deviation	Calculated <i>t</i> -value	<i>df</i>	Critical <i>t</i> -value	Decision
IMSU	27	35.04	3.50	0.415	40.56	2.021	Null hypothesis is accepted
FUTO	78	35.37	3.58	0.415	40.56	2.021	

TETFund intervention in the provision of library facilities at the FUTO and IMSU libraries. From Table 5, there is a low extent of intervention by TETFund for Items 1, 6, 8, 9, 11, 12, 13, 14 and 15. On the other hand, there is a high extent of intervention for Items 2, 4, 5, 7 and 10, while item 3 (reading chairs and tables) is rated as a very high extent of intervention by TETFund.

The researchers observed that TETFund intervenes in the provision of library facilities such as office chairs and tables, reading chairs and tables, study carrels, shelves, computers, the library building, dehumidifiers and air conditioners, and binding machines. However, it does not intervene in display stands/racks, bulletin boards, suggestion boxes, catalogue cabinets, sound-proof generators, public address systems, multimedia projectors and Internet facilities at the two libraries. The reason for non-intervention in these facilities stems from the fact that institutions indicate their preferences for the facilities they need when submitting their application for TETFund intervention.

*Results of analysis of the third hypothesis: The mean rating of the extent of TETFund intervention in the provision of library facilities is not significant at the FUTO and IMSU libraries*

Table 6 presents the *t*-test of significance for the extent of TETFund intervention in the provision of library facilities at the FUTO and IMSU libraries. The calculated *t*-value of 0.415 is less than the critical *t*-value of 2.021 at a 40.56 degree of freedom and 0.05 level of significance. The null hypothesis is therefore accepted. Hence, the mean ratings for the extent of TETFund intervention in the provision of library facilities at FUTO and IMSU do not differ significantly.

*Results of analysis of the fourth research question: What are the challenges encountered in accessing TETFund interventions by the FUTO and IMSU libraries?*

Table 7 presents the item-by-item means and standard deviations for the challenges encountered in accessing TETFund by the libraries under study. From Table 7,

**Table 7.** Challenges encountered in accessing TETFund by the FUTO and IMSU libraries.

Serial Number	Item statements	IMSU (n = 27)			FUTO (n = 78)		
		Mean	Standard deviation	Remark	Mean	Standard deviation	Remark
1	In-house politics	2.78	0.93	Agree	3.46	0.68	Agree
2	Ineffective collection development policy	2.81	0.74	Agree	3.45	0.53	Agree
3	Cumbersome process for accessing the funds	2.67	0.68	Agree	3.41	0.61	Agree
4	Showing no concern in accessing funds	2.74	0.81	Agree	3.44	0.64	Agree
5	Incomplete documentation	2.56	0.64	Agree	3.28	0.77	Agree
6	Delay in the documentation of proposals	2.26	0.98	Disagree	2.82	0.82	Agree
7	Misunderstanding the utilization of the funds	2.33	0.55	Disagree	3.09	0.79	Agree
8	Lack of/little control over contractors by management of the institutions	2.63	1.04	Agree	2.58	0.92	Agree
9	Disbursement of funds from TETFund could be cumbersome/made difficult by a number of factors	3.15	0.72	Agree	2.94	0.81	Agree
	Grand mean	23.93	3.58		28.46	2.45	

all of the item statements represent challenges encountered in accessing TETFund financing by the university libraries, except for Items 6 and 7 for the librarians at IMSU. These items have means above the criterion mean of 2.50, indicating agreement with the item statements. The librarians at both IMSU and FUTO agreed with all of the items except for Items 6 and 7, where the librarians at FUTO agreed but the librarians at IMSU disagreed. The two item statements that the librarians disagreed with are: ‘Delay in the documentation of proposals’ (with a mean of 2.26) and ‘Misunderstanding the utilization of the funds’ (with a mean of 2.33). The findings reveal that the librarians at the universities under study experience some challenges in accessing TETFund funds. They also show that the challenges encountered by the librarians include ‘in-house politics’; ‘ineffective collection development policy’; ‘cumbersome process for accessing the funds’; ‘showing no concern in accessing funds’; ‘incomplete documentation’; ‘delay in the documentation of proposals’; ‘misunderstanding the utilization of the funds’; ‘lack of/little control over contractors by management of the institutions’; and ‘disbursement of funds from TETFund could be cumbersome/made difficult by a number of factors’. However, ‘delay in the documentation of proposals’ and ‘misunderstanding the utilization of the funds’ were not rated as challenges in accessing TETFund by librarians at IMSU.

**Discussion**

The discussion proceeds according to the major findings of the study listed above, and the findings are compared with the findings from other related studies.

*The extent of TETFund intervention in the provision of information resources at the FUTO and IMSU libraries*

The findings reveal that TETFund intervenes to a high extent in the provision of information resources at the two universities. This is revealed by the mean rating scores of the items, which indicate a high extent of intervention by TETFund in the provision of information resources for the libraries. The *t*-test of the first hypothesis reveals that the mean ratings of the extent of TETFund intervention in the provision of information resources at FUTO and IMSU do not differ significantly. This shows that the librarians at both the IMSU and FUTO libraries rated the extent of TETFund intervention in the provision of information resources as high. The information resources where TETFund intervenes to a high extent in their provision are textbooks, serials, e-resources, reference materials and audiovisuals. These findings are in line with the findings of Nnadozie (2013), who observes that TETFund is always used in the selection and acquisition of information resources in academic libraries. Nnadozie notes that many higher education institutions utilized TETFund for purchasing books and non-book materials, especially during the accreditation period. Osinulu and Daramola (2013) found that TETFund came at the right time to alleviate the inadequate funding experienced in the education sector, and university libraries in particular. The acquisition of learning resources such as journals and ICT facilities by particular libraries in south-west Nigeria has been reformed and greatly enriched. Ezeali (2019) reveals that TETFund has contributed to the procurement of learning materials. Anaelobi and Agim (2019) discovered that TETFund

intervention has resulted in quality books and other information resources.

#### *The extent of TETFund intervention in the sponsorship of staff training at the FUTO and IMSU libraries*

The findings of the study reveal that there is a significant difference between the extent of TETFund intervention in the sponsorship of staff training at the FUTO and IMSU libraries. This finding shows that the librarians at IMSU and FUTO did not rate the extent of TETFund intervention in the sponsorship of staff training the same. This shows that there are slight discrepancies in the rating of TETFund intervention in the training of staff at the two universities. The reason for these discrepancies is observed to stem from TETFund's training-preference policy, where staff at institutions that have library schools are given more chances for training sponsorship. FUTO does not have a library school, whereas IMSU does. The librarians at the two universities rated sponsorship of in-service training, training programmes by international organizations, conferences, seminars and workshops, short courses and overseas professional degree programmes as 'high extent' but sponsorship of institutional training programmes as 'very high extent. For sponsorship for study visits, the IMSU librarians rated TETFund intervention as 'low extent', while FUTO rated it as 'high extent'. The finding that TETFund sponsors university library staff to a high extent for in-service training, training programmes by international organizations, conferences, seminars and workshops, short courses and overseas professional degree programmes is in line with the findings of Udu and Nkwede (2014) that many staff at tertiary institutions have been trained, developed and empowered through TETFund. Ugoji (2016) believes that academic library staff, teaching staff in library and information science, and other university staff have benefited through TETFund-sponsored training and development programmes.

#### *The extent of TETFund intervention in the provision of library facilities at the FUTO and IMSU libraries*

The findings reveal that the mean ratings for the extent of TETFund intervention in the provision of library facilities at the FUTO and IMSU libraries do not differ significantly. The librarians at both IMSU and FUTO agreed in their rating of the extent of TETFund intervention in the provision of library facilities. They indicated that there is a low extent of intervention by TETFund in the provision of some facilities. On the

other hand, there is a high extent of intervention by TETFund in the provision of other resources, while there is a very high extent of intervention in the provision of reading chairs and tables. These findings are partially in line with the findings of Agunbiade (2006), who highlighted various library projects that have been funded by TETFund under library development programmes. The reasons for the very high extent and high extent of support for some resources and facilities as opposed to others could be the result of needs assessments conducted at the universities and the 'areas of intervention' requests submitted by the two institutions. The implication of this for the institutions is that each receives interventions based on their areas of need.

#### *The challenges encountered in accessing TETFund interventions by the FUTO and IMSU libraries*

The challenges faced by the two institutions in accessing TETFund interventions are similar. The same challenges cut across the two institutions and have generally affected seamless access to TETFund interventions by the institutions. This state of affairs is supported by Adesulu (2014), who reports that incomplete documentation on the part of institutions applying for funds is one of the reasons why they cannot access these funds. Moreover, Onwuchekwa (2016) states that delay in the documentation of a proposal may hinder access.

### **Conclusion and recommendations**

Education is essential for the development of any nation. It plays an important role in the formation of human capital. TETFund's contribution to transforming the quality of tertiary education institutions in Imo State, Nigeria, in the areas of the provision of library resources and staff development is inadequate. TETFund is proving to be insufficient to sustain Nigeria's tertiary education institutions, in particular with regard to the provision of library resources and human capital development. However, over the years, TETFund has persistently supported higher education institutions in Nigeria through the provision of funds, resulting in the marginal improvements in infrastructural facilities and other resources that we see in many public higher education institutions in Nigeria today.

Based on the findings of this study, the researchers make the following recommendations:

1. The extent of the intervention of TETFund in the provision of information resources is commendable and therefore should be sustained.
2. Since the sponsorship of staff training through TETFund interventions does not cut across all university libraries, the concerned government ministries should monitor the activities of TETFund to ensure that universities, to a reasonable extent, benefit equally.
3. There should be more TETFund intervention in the area of library facilities at the two university libraries studied.
4. Since the cumbersome process of accessing funds is one of the challenges affecting access to TETFund financing by universities, TETFund should be mandated to make the process simpler, although not too easy.
5. TETFund should organize conferences to educate institutions on the need and processes required to access funds and benefit from TETFund.

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# Channels used to deliver agricultural information and knowledge to smallholder farmers

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## Abstract

This study examined the effectiveness of the channels used to deliver agricultural information and knowledge to smallholder farmers in Tanzania. A descriptive cross-sectional design alongside quantitative and qualitative approaches was employed to collect data from 341 respondents. While the data collected through the questionnaire was analysed by using Statistical Product and Service Solutions (SPSS) version 21, the data collected through the interview was analysed by using thematic analysis. The findings suggest that delivery of and access to timely and relevant agricultural information and knowledge, appropriately packaged, is one of the critical problems undermining smallholder farmers' efforts to increase their production. As a result, most smallholder farmers mainly depend on informal channels. Besides informal channels, farmer groups and demonstration plots are becoming popular channels to deliver and access agricultural information and knowledge. To make a difference in agricultural production, deliberate efforts should be made to enhance the delivery of agricultural information and knowledge.

## Keywords

Agricultural knowledge, agricultural information, delivery mechanism, smallholder farmers, rural, Tanzania

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## Introduction

Information and knowledge are the driving forces behind diverse sectors of production. For example, agricultural information and knowledge are regarded as crucial resources and key requirements in efforts to transform the agricultural sector (Nicholase-Ere, 2017). It is worth noting that appropriate agricultural knowledge and information are among the important ingredients in agricultural development. In fact, access to and use of agricultural information and knowledge appears to influence change and empower smallholder farmers with the ability to plan and make informed decisions about farming activities (Mkenda et al., 2017; Mtega and Ngoepe, 2017; Mwantimwa, 2020; Silayo, 2016). This also suggests that relevant

and timely access to and use of necessary information and knowledge enables smallholder farmers to make the right choices (Das et al., 2012; Sokoya et al., 2014). For example, the ability to make decisions on the types of seeds to plant, how to manage pests and diseases, how much of the produce to sell and where to sell the produce, as well as where to get credit or a loan, depends on the agricultural information and knowledge available (Kalema, 2017; Mittal and Mehar, 2012). On the same note, effective

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utilisation of agricultural information and knowledge helps smallholder farmers to adopt innovative farming techniques and translate their efforts into sustainable production (Das et al., 2012; Mwantimwa, 2012; Silayo, 2016).

Over the years, governments and organisations worldwide have made deliberate efforts to improve access to and use of agricultural information and knowledge by farmers. For example, the government of Tanzania has made numerous interventions to foster access to agricultural information and knowledge by smallholder farmers so as to improve production. Among these is the formulation of the National ICT (Information and Communications Technology) Policy in 2013 and its amendment in 2016, which aim to transform the agricultural sector from subsistence to a commercialised sector (United Republic of Tanzania, 2016). Additionally, in a bid to ensure that smallholder farmers have access to agricultural information and knowledge, particularly those with minimal access to telecommunication services, the government has introduced community telecentres in various places such as Lugoba, Mpwapwa, Ngara, Dakawa, Kilosa, Mtwara and Kasulu (Mtega, 2008). Moreover, the government has established the Agricultural Trade Information Centre and agricultural research institutes. Furthermore, the government provides training to extension officers and deploys them nationwide to ensure that smallholder farmers receive reliable agricultural information and knowledge for agricultural development (Mubofu and Elia, 2017). To reinforce these initiatives, the government has also been working with the Food and Agriculture Organization to improve the agricultural sector. In particular, the Food and Agriculture Organization supports the planning, monitoring and evaluation of food and nutrition security, and agricultural production. Also, the Food and Agriculture Organization (2017) is helping to improve market access to increase income, as well as strengthening resilience to natural and man-made threats and crises.

Alongside the government efforts, other stakeholders have been making equally important efforts to enhance agricultural information and knowledge delivery to smallholder farmers. For instance, mobile phone companies in Tanzania have established various mobile services through which smallholder farmers can request and receive agricultural information and knowledge. Good examples of these initiatives include Tigo Kilimo from Tigo and Zantel Kilimo (Z-Kilimo) from Zantel (Barakabitze et al., 2015). Tigo Kilimo provides agronomic, market price and weather forecast information for the major crops (for example, maize, rice, Irish potatoes, onions, cassava, bananas, citrus fruit, sweet potatoes, tomatoes and cashews) grown

in Tanzania (Global System for Mobile Communications Association, 2015). Similarly, Zantel Kilimo helps smallholder farmers to access current agricultural information and knowledge with the aim of increasing productivity and helping farmers make rational decisions (Barakabitze et al., 2015).

Despite these concerted efforts and initiatives to enhance the delivery of agricultural information and knowledge to smallholder farmers, access to these resources in Tanzania, and the Kyela District in particular, remains largely poor. This suggests that only a small portion of the agricultural information and knowledge produced reaches farmers (Sani et al., 2014). This has also been confirmed in Tanzania's *National Agriculture Policy* where it is clearly stated that the collection of information from producers and its dissemination to various actors, including farmers, is insufficient (United Republic of Tanzania, 2013). As a result, smallholder farmers remain unequipped to make good decisions on what to produce, when to produce it and how to do so (Matovelo, 2008). In this regard, Nyamba (2017) asserts that most farmers in Tanzania lack access to accurate and relevant agricultural information and knowledge. This is despite studies (see Mtega, 2017; Mwantimwa, 2019; Siyao, 2012) revealing that the production of agricultural knowledge by different agencies and institutions is good enough to meet current needs. The question is: What and how effective are the channels used to deliver agricultural information and knowledge to smallholder farmers? For this reason, a study to investigate the effectiveness of the channels used to deliver agricultural information and knowledge to smallholder farmers, specifically in the Kyela District, was deemed imperative. The specific objectives were twofold: first, to examine the effectiveness of the channels used to deliver agricultural information and knowledge to smallholder farmers and, second, to assess the timely delivery of agricultural information and knowledge.

## Literature review

This section presents literature on the channels used to deliver agricultural information and knowledge to smallholder farmers. The purposes of this literature review are twofold: first, to provide a critical and systematic review of existing theoretical and empirical scholarly work on the channels used to deliver agricultural information and knowledge to smallholder farmers and, second, to contextualise the current study within the broader area of timely delivery of agricultural information and knowledge. The review was restricted to consider only literature on agricultural information and knowledge delivery



channels from global, regional and local contexts. The literature was retrieved from different scholarly search engines and databases: ScienceDirect, the N2Africa repository, Google Scholar, the SAGE journals database, the Sokoine University of Agriculture repository, the University of Kwazulu-Natal thesis and dissertation repository, and ResearchGate. The literature review is built on literature about the channels used to deliver agricultural information and knowledge to farmers, the effectiveness of these channels, and the timely delivery of agricultural information and knowledge.

Prior studies reveal that agricultural information and knowledge are vital in empowering smallholder farmers to improve their productivity. A study conducted by Adio et al. (2016) suggests that the main purpose of information is to increase the knowledge of the user, reduce levels of uncertainty and reduce the choices available to the user. However, their study reveals that, for information to be effective, it must be accurate, timely and relevant. This implies that increased agricultural production depends on the effectiveness of the channels used to deliver agricultural information and knowledge. The reviewed prior studies suggest that relevance and the timely delivery of agricultural information and knowledge are important determinants of the effectiveness of the channels used. Some studies (for example, Levi, 2015; Odongo, 2014) propose that effective channels are those that are used to deliver agricultural information and knowledge to smallholder farmers at the right time and in a user-friendly manner. The radio (Myers, 2010), mobile phones, the Internet and television appear to be more effective channels for delivering relevant and timely agricultural information and knowledge to farmers (Aldosari et al., 2017; Chhachhar et al., 2014; Mkenda et al., 2017; Mwantimwa, 2019; Ndimbwa et al., 2019; Otter and Thrusven, 2014; Raza et al., 2020). Briggeman and Whitacre (2010) report that the Internet was used effectively to deliver weather forecasts and market price information to farmers in the USA in a timely manner. In particular, farmers have realised several potential benefits of the Internet, such as purchasing inputs online which are not available locally, alongside selling their agricultural produce. More importantly, farmers have the ability to access new markets through individual farm websites. This is not the fact for most farmers in developing countries. Mkenda et al. (2017) reveal that the Internet was used ineffectively to deliver agricultural information and knowledge to smallholder farmers in Tanzania. The main explanation is that inadequate equipment and resources contribute to such a trend.

Fellow farmers, friends, neighbours and family members were found to be the most effective channels for most (> 60%) farmers, followed by extension officers, mobile phones and mass media such as television and the radio (Mkenda et al., 2017). These channels are convenient and easily consulted, used regularly and believed to be rich sources of information and knowledge (Due et al., 1997; Mtega and Ngoepe, 2018; Stringfellow et al., 1997). A study by Silayo (2016) observed a different trend in the use of television in the delivery of agricultural information and knowledge to smallholder farmers in rural settings. Silayo notes that television favours urban areas more than rural areas because of uneven signal coverage and affordability. Silayo's findings further show that radio is an effective channel for both rural and urban areas. More evidence is provided by a number of studies (Adetimhin et al., 2018; Lwoga et al., 2011; Munyua, 2011) that delivering agricultural information to smallholder farmers through media such as radio has been used very successfully in developing countries. This is not what has been observed by Churi et al. (2012), who report that the effectiveness of radio is questionable in terms of relevance and timely delivery. In the same context, other studies (for example, Baloch and Thapa, 2019; Lwoga et al., 2011; Ogboma, 2010) show that print materials, training and seminars, buyers, village executives, and agricultural shows or farmer field days are effective channels in delivering agricultural information and knowledge to smallholder farmers.

Furthermore, the extant studies indicate that delivering relevant and timely agricultural information and knowledge – such as on weather trends, agroforestry, agricultural incentives, improved seeds and best farming practices – improves agricultural productivity (Bachhav, 2012; Misaki et al., 2016; Mtega, 2008). Some studies (for example, Armstrong and Gandhi, 2012; Mubofu and Elia, 2017; Opara, 2008) have associated the timely delivery of agricultural information and knowledge with delivery phases. According to Mubofu and Elia (2017), when information and knowledge on weather, soil, types of fertilisers and seeds delivered before planting crops considered to be timely. Information and knowledge of issues such as land mechanisation, the application of fertilisers and pesticides, and weeding techniques provided during farming practice, and information and knowledge on storage, marketing, sales, investments and the repayment of loans provided after harvesting is also considered to be timely. From this, it is evident that timely access to information on new farming practices has the potential of speeding up farmers' adoption of new and improved practices.

Similarly, timely agricultural knowledge acquaints farmers with new and better farming methods, improved seeds and modern pest-control measures (Siyao, 2012). This increases smallholder farmers' awareness of different agricultural developments and challenges, allowing them to take appropriate actions for their livelihood.

Other studies conducted on farmers' perceptions of the delivery of agricultural information and knowledge present mixed findings. Whereas some suggest that farmers have access to timely agricultural information and knowledge, others indicate that the information and knowledge delivered are not timely. For example, in reviewing initiatives to foster agricultural knowledge management and dissemination using ICT, Kukreja and Chakrabarti (2013) found that the surveyed farmers in India perceived that they encountered problems in accessing timely and relevant agricultural information. This is also supported by Ballantyne (2009), who reports that farmers received untimely information on markets, prices, the weather and technical issues. Moreover, a study conducted by Nyamba and Mlozi (2012) shows that a lack of electricity, a lack of knowledge, poverty, the type of agricultural information to be communicated, the farming system practised, network coverage and respondents' socio-economic characteristics were factors that affected smallholder farmers when accessing agricultural information and knowledge. Scholars such as Nahdy et al. (2011) offer reasons why a large proportion of smallholder farmers in Africa perceived that they were accessing untimely agricultural information and knowledge. Failure to access timely information and knowledge was attributed to the poor agricultural extension services provided to the farmers (Nahdy et al., 2011). Chandrasekhar et al. (2011) add that the problem of inadequate resources in various government and non-governmental organisations is a challenge that hinders smallholder farmers from accessing agricultural information and knowledge in a timely manner. These findings do not tally with those of Brigeman and Whitacre (2010), who note that farmers in the USA perceived that they had access to timely information such as weather forecasts and market prices. Similarly, Raza et al. (2020) examined the perceived effectiveness of different ICTs as information sources among farmers in the Punjab province of Pakistan. They note that the farmers agreed that they accessed timely information and knowledge through different outlets.

## Methodology

### *Research design and approach*

The study deployed a descriptive and cross-sectional research design to investigate the effectiveness of

channels for delivering agricultural information and knowledge to smallholder farmers in Kyela District, Tanzania. A descriptive design tends to be quantitative and qualitative in nature (see Sreejesh et al., 2014), and has the ability of obtaining more information on phenomena within a particular research problem by describing the phenomena (Burns and Gove, 2011; Tavakoli, 2012). Alongside this, a cross-sectional (snapshot) survey design was adopted due to the fact that the respondents were chosen to represent a target population and the data was gathered at essentially one point in time (Creswell, 2014; Tavakoli, 2012). Indeed, most research on particular phenomena at a particular time undertaken for academic purposes is necessarily time-constrained (Saunders et al., 2003).

Accordingly, qualitative and quantitative approaches were employed in the data collection and analysis. A qualitative approach was used to explore the smallholder farmers' opinions, perceptions and views, while a quantitative approach was useful to examine the effectiveness of the channels used to deliver agricultural information and knowledge to the smallholder farmers. In particular, the quantitative data included the socio-demographic characteristics of the farmers and the channels used to deliver agricultural information and knowledge. A combination of quantitative and qualitative approaches helps researchers to generate evidence about the topic under investigation. As a result, there is a growing interest in employing mixed designs and approaches (see Zhang and Watanabe-Galloway, 2014).

### *Study settings*

The study was conducted in seven villages (Kisale, Kingili, Kange, Ushirika, Kisyosyo, Matema and Kasumulu) in the Kyela District of the Mbeya Region of Tanzania from October through December 2019. The choice of these villages was purposively made due to the fact that they comprise smallholder farmers who participate in farming activities with low productivity (Hassan, 2014; Ngailo et al., 2016). Low productivity is associated with limited agricultural information and knowledge among farmers in rural Tanzania (see Siyao, 2012). The question is: How effective are the channels that are used to deliver agricultural information and knowledge to these rural communities? Moreover, the study was conducted in the selected villages in the Kyela District because of time constraints; it was not possible to study the whole community of the Kyela District at the same time. In fact, most of the population of Kyela are smallholder farmers – hence, the use of seven

representative villages was convenient for the researchers. More importantly, the choice was based on their geographical locations and the types of crops (for example, rice, cocoa and cashews) grown by the smallholder farmers.

### *Population, sample size and sampling procedures*

With regard to the population, sample size and sampling procedures, the study included smallholder farmers aged over 20. The selection of this age was influenced by the fact that, in the selected villages, people of this age and older have independent families and therefore, in one way or another, engage in agricultural activities. The sample size was 341 respondents. From this sample, 318 smallholder farmers were conveniently chosen, while 23 key informants (i.e. agricultural, extension and executive officers, researchers and village leaders) were purposively chosen. These two non-probability sampling techniques were used due to the fact that it was not possible to include every subject because the population was almost infinite (Etikan et al., 2016). Convenience sampling was used to select smallholder farmers who were available at a given time and willing to participate. Purposive sampling, as a judgement sampling technique, was used to select experienced and knowledgeable stakeholders from the Ministry of Agriculture, Uyolet Agricultural Institute, districts, wards and villages.

### *Data collection methods and instruments*

The data collection involved the use of multiple data-gathering techniques to investigate the effectiveness of the channels of delivering agricultural information and knowledge to smallholder farmers so as to improve the validity and reliability of the data (Berg, 2007; Creswell, 2014). Mainly, a cross-sectional survey method (questionnaire and interview), focus group discussions and observations were employed in the present study. The questionnaire had two sections. Section A was on the demographic information of the respondents, while section B covered the four specific objectives of the study: the types of channels used to deliver agricultural information and knowledge, and factors affecting the delivery mechanisms of information and knowledge. The questionnaire comprised both open-ended and closed-ended questions. Nominal and ordinal (Likert) scales were used. It was administered by the researchers face-to-face due to the nature of the population. In fact, the illiteracy rate was one of the obstacles preventing the use of a self-administered method. Choudhury (n.d.) suggests that one of the major limitations of questionnaires is that they can only be applicable to

respondents who have a certain level of education. They cannot be used with illiterate or semi-literate persons. Accordingly, semi-structured interview guides were prepared and administered during face-to-face interview session by the researchers with the key informants. The questionnaire administered to the smallholder farmers lasted 30–45 minutes, whereas the interview with the key informants lasted 20–30 minutes. In order to increase the understanding and reliability of the data, the questionnaire and interview guides were translated into Swahili.

A total of three focus group discussions with smallholder farmers and key informants were conducted in the study area and each group had between six and ten participants. This number of participants was found to be appropriate, as recommended by Kumar (2011), who claims that approximately eight to ten people is the optimal number for such discussion groups. Generally, the number of years of experience in food production and the provision of detailed information about the topic in the questionnaire or during the face-to-face interview were the criteria for selecting the focus group discussion participants. For example, one focus group discussion was conducted with the key informants and a few smallholder farmers to determine their perceptions, opinions and experiences with regard to the channels that were effective in delivering information and knowledge to farmers. In this regard, Mtega and Bernard (2013) report that this method is particularly useful for exploring people's knowledge and experiences, and can be used to examine not only what people think, but also how they think and why they think that way. Another focus group discussion was conducted with the key informants (i.e. experts in the Ministry of Agriculture) to get their perceptions, opinions and experiences with regard to which channels were effective in delivering information and knowledge to farmers. Third focus group discussion was conducted to key informants (i.e. researchers) at the Uyolet Agricultural Institute. The main purpose was to understand types of agricultural information and knowledge produced and type of channels used to deliver agricultural information and knowledge. During the discussion, every respondent was given the opportunity to express their thoughts on the channels that were effective in delivering agricultural information and knowledge to smallholder farmers in the study area. After the discussion, a consensus was reached and the most agreed-on opinions were recorded by the researchers.

Finally, the researchers observed various issues related to the channels used to deliver information and knowledge to the smallholder farmers in the study area. In addition, secondary data was collected from different sources, including research reports such as *Agricultural production trend in Tanzania (2013–*

2019), the ICT policy (2016) and *Statistics of extension officers* (2018).

### Data processing and analysis

On completion of the data collection, the qualitative data and the quantitative data were analysed separately. Prior to the analysis, the quantitative data was organised, verified, compiled, coded and analysed by using Statistical Product and Service Solutions (SPSS) version 21. Descriptive statistics, such as frequencies and percentages, helped to organise and summarise the data. On the other hand, the qualitative data from the open-ended questions, focus group discussions and interview was analysed by a thematic method. This was done through transcription, classification and the reorganisation of different subthemes, as well as the identification of similar and dissimilar aspects of the study in the interview. Finally, the quantitative and qualitative results were reported concomitantly in such a way that the qualitative results were used to elaborate on and validate the quantitative findings. In short, the qualitative data analysis was integrated into the study to explain the quantitative results.

### Limitations of the study

This study was not immune to limitations, such as the low literacy level of some of the respondents. As a result, it was not possible to use a self-administered questionnaire method. In order to overcome this limitation, the questionnaire was administered using a face-to-face method. Aside from this, some of the smallholder farmers were unwilling to be asked questions by the researchers due to a shortage of time and their busy schedule. Despite these challenges, the researchers stayed with the respondents and collected the data at the respondents' convenience.

## Findings and discussion

### Demographic characteristics of the respondents

The respondents were asked to indicate their socio-demographic characteristics. Specifically, they were asked to indicate their gender, age, marital status and education level (see Table 1).

The results indicate that a significant percentage (67%) of the smallholder farmers who participated in the present study were male. This implies that the majority of the smallholder farmers in the surveyed wards and villages in Kyela District were male. This trend suggests that a small proportion (33%) of females were participating in farming activities in the surveyed villages. There were few female

**Table 1.** Demographic characteristics of the respondents.

Demographic characteristics (n = 318)	Frequency	%
<b>Gender</b>		
Male	228	67.0
Female	113	33.0
<b>Age</b>		
< 21	4	1.3
21–30	62	19.5
31–40	89	28.0
41–50	92	28.9
50+	71	22.3
<b>Marital status</b>		
Married	271	85.2
Single	14	4.4
Divorced	7	2.2
Widow	18	5.7
Separated	8	2.5
<b>Education level</b>		
Never been to school	43	12.6
Primary	235	68.9
Secondary	35	10.2
Certificate	2	0.6
Diploma	13	3.8
Degree	5	1.4
Master's	8	2.3
PhD	1	0.2

Source: Field data (2019).

respondents due to family responsibilities, contrary to the men, who in most cases were flexible and hence available during the field data collection. The findings further show that more than three-quarters (76.4%) of the respondents were aged between 21 and 50, followed by 22.3% aged 50 or over, while only 1.2% were below the age of 21. This implies that a significant proportion of the smallholder farmers were at an active age and engaged in agricultural production. In fact, their mainstay and livelihoods mainly depended on agricultural production. Furthermore, the results indicate that the marital status of the smallholder farmers in the study area varied. Whereas the majority (85.2%) were married, fewer were single, divorced, separated or widowed. This suggests that the smallholder farmers were living with partners.

Accordingly, the results show that a large percentage (68.9%) of the smallholder farmers in the surveyed villages had received primary school education while the least number (< 10%) had completed secondary education or had a diploma or degree. Also, it is worth noting that 12.7% of the participants had never been to school. These results

indicate that most of the smallholder farmers in the surveyed villages of Kyela District had a low level of education. Their level of education, such as primary education, prevents them from seeking employment in the formal sector of the economy. As a result, a large proportion of them are engaged in agricultural production.

### *Channels used to deliver agricultural information and knowledge*

The respondents were asked to indicate the main channels used to deliver agricultural information and knowledge in the study area. The results from the focus group discussions and interview session reveal that diverse channels were used to deliver agricultural information and knowledge to the smallholder farmers. For example, one of the key informants commented:

Fellow farmers or the farmer-to-farmer channel of delivering information and knowledge is very common and important in rural areas. For instance, a knowledgeable farmer can deliver information and knowledge to his fellows on the quality of seed to produce, type of fertiliser to apply and pesticide control, and provide market information for such crops. (Female extension officer, aged 57, diploma qualification, Ipinda ward)

In describing the types of channels used to deliver agricultural information and knowledge to the smallholder farmers, one of the responding extension officer added:

Community radio such as Kyela and Chai FM are mostly the channels used to broadcast agricultural information and knowledge related to farming. However, some of the information and knowledge broadcast needs some clarification to be made clear to farmers either through village meetings or demonstration plots. (Male extension officer, aged 35, diploma qualification, Ipinda ward)

Moreover, the results from the interview with the extension officers further revealed that farmer field schools and training of trainers (TOT) were found to be other channels that were useful for delivering agricultural information and knowledge to the smallholder farmers. They were found to provide smallholder farmers with an opportunity to learn by doing. The results also disclose that farmer field schools, farm groups and TOT enabled the smallholder farmers to investigate a wide range of topics, such as the management of soil fertility, testing soil and water resources; the selection of quality seeds; the risks associated with pesticides and their management; and new crops and skills. In

**Table 2.** Effectiveness of the channels used to deliver agricultural information and knowledge.

	Effectiveness of channels	Frequency	%
1	Extremely effective	0	0
2	Very effective	14	4
3	Moderately effective	131	41
4	Slightly effective	123	39
5	Not at all effective	50	16

Source: Field data (2019).

support of this, an agricultural field officer from Ngana ward added:

Farmer groups, field days and TOT are also important channels in delivering agricultural information and knowledge to smallholder farmers since it enables easy and immediate sharing of information among farmers. For example, last year (i.e. 2018), one of the input suppliers used farmer groups to test their fertilisers and pesticides in rice farms. This was an important channel to deliver knowledge. This enabled farmers to make decisions on the types of fertilisers and pesticides to apply in their farms. (Male agricultural field officer, aged 34, diploma qualification, Ngana ward)

Generally, the findings suggest that radio, television, training, meetings, extension officers and interpersonal communication (between friends, neighbours or fellow farmers) were the channels used to deliver agricultural information and knowledge, as other studies corroborate (see, for example, Mtega and Ngoepe, 2018; Mwantimwa, 2019). In addition, other channels, such as demonstration plots, farmer field schools, field days, agricultural shows and farm groups, were also used. From this, it is evident that the smallholder farmers relied on both formal and informal channels of information and knowledge delivery. This is due to the fact that, via these channels, smallholder farmers gain basic agricultural skills through observation, experimentation and practical experiences, as well as new knowledge.

### *Effectiveness of the channels used to deliver agricultural information and knowledge*

The question on which channels were effective in delivering agricultural information and knowledge to the smallholder farmers in the study area was found to be important. The smallholder farmers were asked to rate the effectiveness of the channels that were used to deliver information and knowledge in their area using an ordinal scale (1 = Extremely effective, 2 = Very effective, 3 = Moderately effective, 4 = Slightly

**Table 3.** Effectiveness of the channels used to deliver agricultural information and knowledge.

Channels (n = 318)	Not at all effective		Slightly effective		Moderately effective		Very effective	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Television	235	73.9	46	11.3	25	7.9	12	3.8
Radio	49	15.4	103	32.4	111	34.9	55	17.3
Mobile phones	25	7.9	95	29.2	179	56.3	19	6.0
Brochures	289	90.9	9	2.2	16	5.0	4	1.3
Internet	295	92.8	18	4.7	2	0.6	3	0.9
Social media	284	89.3	27	8.2	5	1.6	2	0.6
Posters	291	91.5	21	6.6	5	1.6	1	0.3
Newspapers	287	90.3	25	7.9	5	1.6	1	0.3
Books	298	93.7	5	1.6	11	3.4	4	1.3
Training/seminars	88	27.7	145	43.4	59	18.6	26	8.2
Meetings	126	39.6	111	34.9	54	16.9	27	8.5
Buyers	184	57.9	90	28.3	24	7.5	20	6.3
Extension officers	38	11.9	154	48.4	104	32.7	22	6.9
Fellow farmers	15	4.7	47	14.8	89	28.0	167	52.5
Teachers	289	90.9	18	5.6	7	2.2	4	1.3
Input suppliers	279	86.8	8	2.5	29	9.1	5	1.6
Leaders	208	65.4	80	6.3	27	8.5	3	0.9
Demonstration plots	8	2.5	45	14.2	170	53.5	95	28.9
Non-governmental organisations	5	1.6	156	49.1	73	23.0	84	26.4
Agricultural shows	194	61.1	23	7.2	29	9.1	72	22.6
Research institutes	282	88.7	24	7.5	10	3.1	2	0.6
Religious institutions	294	92.5	12	3.8	7	2.2	5	1.6
Information centres	285	89.6	27	4.1	1	0.3	5	1.6
Noticeboards	287	90.3	28	8.8	2	0.6	1	0.3

Source: Field data (2019).

effective, 5 = Not at all effective). The results are presented in Table 2.

The results presented in Table 2 show that more than two-fifths (41%) of the smallholder farmers reported that the channels used to deliver agricultural information and knowledge in the study area were moderately effective, while close to two-fifths (39%) said that they were slightly effective and few stated that the channels were effective or extremely effective. In order to gain more insight into the effectiveness of the channels, the smallholder farmers were asked to rate the effectiveness of the channels used to deliver agricultural information and knowledge using a five-point Likert scale (1 = Not at all effective, 2 = Slightly effective, 3 = Moderately effective, 4 = Very effective, 5 = Extremely effective). The results are displayed in Table 3.

The results in Table 3 reveal the slight effectiveness of extension officers in delivering agricultural information and knowledge to farmers, as cited by 48.4% of the smallholder farmers. These results are in line with those found from the interview and focus group discussions, which exposed the diminishing role of extension officers in delivering agricultural information and

knowledge to smallholder farmers. Accordingly, the results from the interview sessions suggest that most of the extension officers were not visiting smallholder farmers in rural areas. To support this, one of the smallholder farmers from Matema village commented:

In our village it's like we don't have an extension officer, although the village chairperson informed us that there is an extension officer who was assigned to help farmers in our village, but we've never seen him visiting farmers. So, where can we get agricultural information and knowledge? (Male smallholder farmer, aged 39, primary-level education, Matema village)

In the same context, another smallholder farmer, while insisting on the importance of extension officers in delivering agricultural information and knowledge to smallholder farmers, remarked:

A shortage of extension officers undermines farmers' ability to deploy proper methods of farming. The number of farmers is increasing while the number of extension officers is decreasing. In previous years, extension officers were very active and were able to serve farmers' needs in terms of advice and imparting knowledge on

new farming techniques and animal husbandry. (Female smallholder farmer, aged 43, secondary-level education, Ngana ward)

These findings imply that poor extension services are accompanied by a shortage of extension officers, which, in one way or another, affects the delivery of agricultural information and knowledge to smallholder farmers. This is quite different from what was happening in the 1990s when extension officers were playing an active role in the delivery of agricultural information and knowledge to farmers in rural Tanzania, as reported in numerous studies (see, for example, Due et al., 1997; Stringfellow et al., 1997). This shows that the decline of extension services in rural settings may be attributed to the shortage of extension officers and reluctance of some to visit rural farmers (Lwoga et al., 2011).

Similarly, seminars and meetings were also reported as slightly effective channels. This finding does not corroborate the findings of Ogboma (2010), who notes that seminars and meetings are important channels of agricultural information and knowledge. The only shortfall with regard to seminars and meetings as effective channels is the extent to which they are conducted. It should be noted that seminars and meetings were rarely conducted in the surveyed villages (Mwantimwa, 2012, 2020). However, the results from the face-to-face interview and focus group discussions signify that radio, training of trainers, fellow farmers, neighbours and friends were mostly used by the smallholder farmers in sharing agricultural information and knowledge.

In addition, the results show that more than one-third (34.9%) of the smallholder farmers rated radio as a moderately effective channels of communication. According to these farmers, radio was one of the most important information and knowledge outlets in their villages.

It is an undeniable fact that radio has long been an important and effective information and knowledge outlet, as found in prior studies (see, for example, Adetimehin et al., 2018; Munyua, 2011; Myers, 2010). However, the effectiveness of radio in broadcasting agricultural information and knowledge is questionable in terms of relevance, the frequency of agricultural programmes and timely delivery (Churi et al., 2012). In fact, agricultural programmes are rarely broadcast by radio stations. And even when they are broadcast, some of the information and knowledge does not match with farmers' needs (Mwantimwa, 2012). From the literature, it can be noted that coverage is also an issue that undermines the effectiveness of radio. This implies that not all

smallholder farmers in rural settings are covered by radio frequencies (Mkenda et al., 2017; Nyamba, 2017; Nyamba and Mlozi, 2012).

Furthermore, the study results show that more than half (52.5%) of the smallholder farmers cited fellow farmers as a very effective channel for delivering agricultural information and knowledge. Moreover, mobile phones and demonstration plots were moderately effective in delivering agricultural information and knowledge, as cited by 56.3% and 53.5% of the respondents, respectively. The results also suggest that close to half (49.1%) the farmers rated non-governmental organisations as an effective channel. Accordingly, more than two-fifths (43.4%) rated training and seminars as slightly effective. The results further highlight that the majority (> 50%) of the smallholder farmers indicated that channels such as print materials, social media, teachers, research institutes, information centres, noticeboards, religious institutions, village leaders, input suppliers, agricultural shows, buyers, television stations and the Internet were ineffective channels for delivering agricultural information and knowledge. One of key informants director at the Ministry of Agriculture specified that:

The use of demonstration plots and Training of Trainers is very important in sharing agricultural information and knowledge in rural areas. Through demonstration plots owned by a farm group, farmers can get new agricultural information and knowledge on an improved seed. For example, farmers can test a new seed in a demonstration plot and, after testing it, they can decide either to reject or accept it. (Male director at the Ministry of Agriculture, aged 56, Master's degree)

Another key informant, from Uyole Agricultural Institute, reported:

From my experience, farmer groups are more effective than individuals or meetings because farmers in a group are free to discuss various issues related to their activities, such as the crop calendar and market price, and share farming experiences and find solutions related to farming activities. A number of non-governmental organisations and input suppliers are using farmer groups to convey agricultural information and knowledge. (Female researcher at Uyole Agricultural Institute, aged 57, Master's degree)

This suggests that channels such as farmer groups, fellow farmers and demonstration plots were found to be effective, and reveals that they are becoming effective information and knowledge delivery channels. For example, demonstration plots offer the opportunity for smallholder farmers to gain practical

**Table 4.** Timeliness of delivery of agricultural information and knowledge.

Types of agricultural information and knowledge ( <i>n</i> = 318)	Very timely Frequency (%)	Timely Frequency (%)	Untimely Frequency (%)
<b>Information</b>			
Marketing	3 (0.9)	55 (17.3)	260 (81.8)
Credit and loan facilities	2 (0.6)	59 (18.6)	257 (80.8)
Climate variation and risks	6 (1.9)	94 (29.6)	218 (68.6)
Weather forecasts	4 (1.3)	120 (37.7)	194 (61.0)
Legal	9 (2.8)	0 (0.0)	309 (97.2)
Incentives	1 (0.3)	5 (1.6)	312 (98.1)
Transport	1 (0.3)	11 (3.5)	306 (96.2)
<b>Knowledge</b>			
Improved seeds	8 (2.5)	202 (63.5)	108 (34.0)
Crop production techniques	5 (1.6)	147 (46.2)	166 (52.2)
Pesticides and herbicides	5 (1.3)	108 (34.0)	206 (64.8)
Post-harvest	2 (0.6)	27 (8.5)	289 (90.9)
Animal husbandry	1 (0.3)	30 (9.4)	287 (90.3)
Animal feeds	1 (0.3)	12 (3.8)	305 (95.9)
Animal vaccinations	13 (4.1)	144 (45.3)	161 (50.6)
Improved livestock breeds	1 (0.3)	14 (4.4)	303 (95.3)

Source: Field data (2019).

knowledge by doing, while farmer groups encourage input suppliers, buyers, non-governmental organisations and extension officers to deliver, share and exchange agricultural information and knowledge with smallholder farmers. Cost-effectiveness and time issues explain the preference and effectiveness of adopting demonstration plots and farmer groups as agricultural information and knowledge delivery channels. Moreover, fellow farmers, friends, relatives and neighbours were also found to be effective channels. This tallies with the findings of Mtega and Ngoepe (2018), who note that these channels are convenient and easily consulted, and believed to be rich in information and knowledge. However, it is not supported by other studies – for example, Aldosari et al. (2017), Briggeman and Whitacre (2010), al Musawi (2014) and Raza et al. (2020) suggest that television and the Internet are more effective channels for the dissemination of agricultural information and knowledge. This could be true in developed countries such as the USA (see Briggeman and Whitacre, 2010) and urban areas in developing countries and Tanzania in particular (Mkenda et al., 2017; Silayo, 2016).

#### *Timely delivery of agricultural information and knowledge*

In order to understand whether agricultural information and knowledge were delivered in a timely manner, the smallholder farmers in the surveyed villages were requested to indicate the timeliness of the

delivery of agricultural information and knowledge using an ordinal scale (Very timely, Timely, Untimely). The results are summarised in Table 4.

The results in Table 4 show that the majority (> 50%) of the smallholder farmers in Kyela District reported that agricultural information on marketing, credit and loans, legal matters, incentives, climate variations and weather forecasts was not delivered in a timely manner. A few of the smallholder farmers reported that weather forecast information (37.7%) and information on climate variation (29.6%) were delivered in a timely fashion. Also, the results indicate that the majority (63.5%) of the smallholder farmers agreed that agricultural knowledge on improved seeds was delivered in a timely manner. On the other hand, the results disclose that more than half (> 50%) of the smallholder farmers stated that knowledge about crop production techniques, pesticides and herbicides, post-harvest, animal vaccinations, animal husbandry, animal feeds and improved livestock breeds was not. Similar results were obtained during the interview session, where one of the smallholder farmers commented:

Sometimes, the agricultural information and knowledge delivered to us is not timely. For example, last year (2018) during the village meeting, our extension officer instructed farmers to plant a new, improved rice seed known as Sallo 5 that yields much produce, while we had already planted our own traditional seeds. (Male smallholder farmer, aged 42, primary-level education, Ipinda ward)



Another smallholder farmer remarked:

The other time they told us to grow crops that take a short time to ripen due to weather problems while we had already planted crops that take a long time to grow. So, we harvested nothing in that year. All this was associated with untimely delivery and access to agricultural information and knowledge about the new species of crops which tolerate drought conditions. (Male smallholder farmer, aged 55, primary-level education, Matema ward)

In support of this, a third smallholder farmer had the following to say:

Information is not coming on time. Sometimes, you can request pesticide information on how to cure a certain crop disease, especially on rice and cocoa, but you won't get it in time. As a result, most of the smallholder farmers opt to use indigenous knowledge to deal with such pesticide problems. In many cases, a low yield is accompanied by a delay in agricultural information and knowledge. (Female smallholder farmer, aged 38, primary-level education, Ngana ward)

These comments disclose that smallholder farmers are aware of the importance of agricultural information and knowledge in their farming activities; however, the untimely delivery of these resources becomes a challenge for most smallholder farmers. Surprisingly, the group of farmers growing cocoa were not in agreement with the farmers growing rice. For them, information on pesticides, vaccinations, fertilisers, markets and improved seeds was delivered on time:

In our group, we are provided with timely agricultural information and knowledge related to cocoa production – information such as improved seeds, when and how to plant, knowledge on pesticides, and how to harvest and process the harvested cocoa to maintain its quality. For example, post-harvest knowledge, particularly on processing, is delivered to us on a timely basis. This information and knowledge is mainly provided by non-governmental organisations, input suppliers and buyers. (Male smallholder farmer, aged 47, primary-level education, Ngana ward)

From the above, private companies and non-governmental organisations play an important role in delivering timely knowledge related to farmers' produce. In particular, input suppliers and buyers are the prime sources and channels of agricultural information and knowledge. It is worth noting that timely information and knowledge were delivered through farmer groups, as one extension officer testified:

We encourage farmers to be in groups so as to educate them while they are there in the group rather than visiting an individual farmer, due to a shortage of time and poor infrastructure. However, there are some farmers who are reluctant to join farmer groups. (Male extension officer, aged 37, primary-level education, Ipinda ward)

This reveals that smallholder farmers who were members of groups were more likely to be provided with timely agricultural information and knowledge than individual farmers. Also, the results from the focus group discussions disclosed that information and knowledge on vaccinations was delivered on a more timely basis to smallholder farmers than crop-production-related information and knowledge. Explaining the reasons behind this situation, one of the smallholder farmers commented:

Once our livestock are sick and you call an expert for a cure, they come immediately because they know that through that treatment they will get money. But if it is about a crop-related problem, they delay in giving us solutions and advice. (Female smallholder farmer, aged 56, primary-level education, Ipinda ward)

From these findings, it is worth noting that timely agricultural information and knowledge delivery depends on the type of problem at hand. In particular, the findings indicate that information and knowledge on demand, which is associated with service providers' income generation, is more likely to be provided on a timely basis. In addition to knowledge on improved seeds, crop production techniques, livestock vaccinations and weather conditions, other types of information and knowledge were delivered in an untimely manner. Specifically, the smallholder farmers associated such untimely delivery with a shortage of extension officers to deliver and exchange the information and knowledge, as well as the costs of information and knowledge resources such as televisions and smartphones (Ndimbwa et al., 2019). Comparing individual smallholder farmers and those who are members of groups, the findings indicate that those in groups were likely to receive and access timely agricultural information and knowledge. What are the explanations for this? It is an undeniable fact that input suppliers, buyers, non-governmental organisations and financial institutions prefer dealing with groups so that they can reach a significant number of smallholder farmers, rather than dealing with individuals. From prior studies (for example, Siyao, 2012), timely access to information on new farming practices has the potential of speeding up farmers' adoption of new and improved practices. Furthermore, it increases

smallholder farmers' awareness of different agricultural developments.

### Conclusion and recommendations

Delivering agricultural information and knowledge to smallholder farmers is essential for increasing their levels of production. Based on the documented role played by ICTs in the creation and dissemination of agricultural information and knowledge, it was assumed that information delivery to and access by smallholder farmers was not a problem. However, the findings of the present study show otherwise. On the whole, the findings reveal discrepancies between the types of channels used to deliver agricultural information and knowledge. From the findings, it is evident that most of the channels used to deliver agricultural information and knowledge are either extremely or very ineffective. In other words, the channels used to deliver agricultural information and knowledge are either moderately or slightly effective. Inadequate information and knowledge to foster production is a long-standing problem. As a result, smallholder farmers mainly depend on informal systems of information and knowledge delivery, such as fellow farmers, relatives, friends and neighbours. These interpersonal communication channels are sometimes flawed, untimely, irrelevant and unreliable. Unexpectedly, the roles performed by extension officers were found to be unsatisfactory. Besides informal channels, it is worth noting that farmer groups and demonstration plots are becoming very effective and popular channels for delivering and accessing agricultural information and knowledge in rural settings.

Furthermore, the findings suggest that the smallholder farmers in the surveyed villages received untimely and unreliable agricultural information and knowledge. Poor access to and use of timely and reliable agricultural information and knowledge was associated with poor packaging, inappropriate language, low levels of education, and a lack of information centres and libraries, alongside a shortage of extension officers, low incomes, and inadequate television and radio programmes on agriculture.

To make a difference to agricultural production, deliberate efforts should be made by government, non-governmental organisations and other stakeholders to enhance the delivery, access and use of agricultural information and knowledge. In particular, the present study recommends that the government should strengthen extension services through increasing the number of extension and agricultural officers, training them, and providing them with adequate resources such as motorcycle and incentives. Agricultural extension officers and other stakeholders should

use community radio to deliver agricultural information and knowledge to smallholder farmers. In order to enhance access to and use of information and knowledge, agricultural programmes should be broadcast at the right time – for example, from 5 p.m. to 9 p.m. would be an appropriate time for most smallholder farmers. In addition, demonstration plots of different crops should be introduced in each village at least to provide farmers with avenues to learn and gain knowledge through practice. This is a participatory approach. Also, smallholder farmers should be encouraged to be members of groups. This is important due to the fact that, currently, a number of agricultural stakeholders (for example, financial institutions, buyers, extension officers, input suppliers, government and non-governmental organisations) prefer farmers to be in groups to provide their services. Apart from this, the current agricultural and information policies should be amended to accommodate the information requirements of smallholder farmers and facilitate the easy delivery of agricultural information and knowledge. The government should work closely with mobile phone service providers such as Tigo, Airtel, Vodacom, Zantel and others to strengthen the delivery of agricultural information and knowledge to smallholder farmers through text messaging. In addition, agricultural information and knowledge producers should use simple and clear language with pictures, while repackaging information and knowledge to increase understanding by smallholder farmers.

There are a number of questions this study leaves unanswered, as well as a number of new questions it raises. Future studies should take the following directions: first, a study is needed to explore the use of social media in exchanging and sharing agricultural information and knowledge, as social media are becoming more popular when it comes to information-sharing; second, an experimental study should be conducted on the deployment of demonstration plots to support access to and use of agricultural information and knowledge; and, third, long-term follow-up research is necessary to assess the tangible impact of information and knowledge on agricultural production.

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# Benefits of crowdsourcing for libraries: A case study from Africa

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## Abstract

Many libraries in the Global South do not collect comprehensive data about themselves, which creates challenges in terms of local and international visibility. Crowdsourcing is an effective tool that engages the public to collect missing data, and it has proven to be particularly valuable in countries where governments collect little public data. Whereas crowdsourcing is often used within fields that have high levels of development funding, such as health, the authors believe that this approach would have many benefits for the library field as well. They present qualitative and quantitative evidence from 23 African countries involved in a crowdsourcing project to map libraries. The authors find benefits in terms of increased connections between stakeholders, capacity-building, and increased local visibility. These findings demonstrate the potential of crowdsourced approaches for tasks such as mapping to benefit libraries and similarly positioned institutions in the Global South in multifaceted ways.

## Keywords

Crowdsourcing, mapping, capacity-building, data gaps, Africa

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## Introduction

Libraries around the world are contributing a great deal to development but do not necessarily realize or advertise their work. As an example, Okojie and Okiy (2019) share compelling evidence from 38 libraries in Nigeria to illustrate how they are contributing to the country's development agenda, yet library staff did not perceive what they were doing as "development." As a result,

such stories from Nigeria and many African countries to date are under-represented on the International Federation of Library Associations and Institutions'

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(IFLA, 2020b) Sustainable Development Goals Stories map. This is symptomatic of an even greater problem that faces library systems in the Global South, and Africa in particular. In many countries, there is a lack of data culture or a systematic method of collecting data about library reach or impact (Lynch et al., 2020; Moahi, 2019). In some cases, the national library or related authorizing institution of a country does not even know how many libraries it has or where they are located. This creates challenges related to visibility, as libraries struggle to be recognized by local stakeholders (Elbert et al., 2012) and the wider development community (Fellows et al., 2012; Namhila and Niskala, 2012) as potential partners in this work.

In this article, we argue that crowdsourcing can help collect important library data in countries that have weak data-collection and governance systems, in order to overcome these issues of visibility. To make this argument, we focus on an evaluation of a crowdsourcing project that worked with librarians across 23 African countries to map libraries. The evaluation data, including a survey, focus group discussions, and individual presentations at a stakeholder meeting, demonstrated that the participants and library systems experienced benefits from crowdsourcing, including increased connections, capacity-building, and increased visibility.

While our case study focuses explicitly on collecting library location data within specific African countries, we argue that the approach could be generalized to collect other forms of library data, to collect data about other community institutions, and even to other locations in the Global South with similar challenges and needs. These findings demonstrate the potential for Global South communities to collect their own authoritative data to overcome gaps in official data sets and gain recognition for their work. Furthermore, the benefits of crowdsourcing reach beyond mere data collection to impact libraries and participants in positive ways. This suggests the need for more research to expand crowdsourced approaches to similar institutions in other locations in the Global South, in order to advance their visibility and build internal capacity for data-based advocacy.

## Background

### *Literature review: crowdsourcing and mapping in libraries*

Various technological advances have expanded public involvement in data, in terms of both production and consumption. Many of these advances relate to the emergence of digital networks and associated information and communication technologies, which have greatly expanded the human capacity for information

production, storage, communication, and analysis (Castells, 2004). The reach, accessibility, and relative affordability of these technologies makes it easy for individuals to reach large and widespread audiences for very low costs (Benkler, 2006; Bennett and Segerberg, 2013; Bimber, 2007). This not only gives people more access to more sources of data than ever before, but also allows individuals to produce their own data even when they are not in an authoritative position. These new capabilities have produced a great deal of excitement around the process of *crowdsourcing*, defined as a method of engaging non-specialists in the completion of routine online tasks (see Howe, 2006). Originally introduced as a business concept for utilizing amateur labor at low cost, crowdsourcing has become increasingly popular across many domains for economizing budgets, disrupting traditional flows of knowledge, and democratizing knowledge production (Lievrouw, 2011). Naturally, crowdsourcing does not represent a panacea to all problems related to knowledge production, and the method has also been criticized as inefficient (see, for example, Causer et al., 2012), exploitative (see, for example, Ettliger, 2016), and capable of reinforcing colonial power dynamics (see, for example, Omanga and Mainye, 2019; Young, 2019). Nevertheless, when designed carefully, the method has demonstrated great potential for expanding the role of non-experts in producing important data, in tasks ranging from archiving restaurant menus (Lascarides and Vershbow, 2014) to diagnosing malaria (Wazny, 2018).

Maps have proven to be a particularly powerful medium for crowdsourcing because they are both easily understood by non-expert data producers and provide a powerful visual framework for presenting data. Many crowdsourcing applications base their platforms around maps, allowing users to click that map to produce their own geospatial data. This map-based crowdsourcing process has generated great scholarly excitement within the discipline of geography, where it has gone by names including volunteer geographic information (VGI), neogeography, and others (see, for example, Elwood et al., 2012; Goodchild, 2007). Within the Global North, crowdsourced approaches have been used to map everything from environmental destruction to public health issues (Warf and Sui, 2010), and have also been the basis for new forms of political activism and civic engagement (see, for example, Elwood and Leszczynski, 2013).

The approach has been arguably even more impactful in the Global South, where it has proven useful for overcoming gaps in official data sources and information and communication technology services in times of crisis (Zambrano, 2014; Zook et al., 2010). Across

Africa, crowdsourcing has been employed to map various phenomena, including election violence, agriculture support, outbreaks of disease, and response to natural disasters (United Nations Economic Commission, 2017; Yilma, 2019; Zambrano, 2014). Further, crowdsourced maps can be utilized as political advocacy tools by making small-scale efforts more visible to larger funding or political bodies in the Global South (Young, 2017; Young and Gilmore, 2017). Our work operates on similar hopes of connecting communities with the resources they need for institutional survival through elevating their visibility, as evidence shows that many libraries in Africa do not collect comprehensive data about themselves, which creates challenges in terms of local and international recognition (Lor, 2016; Lynch et al., 2020).

Whereas crowdsourced mapping is often used within fields that have high levels of development funding, such as health (see, for example, [healthsites.io](http://healthsites.io); also see Wazny, 2018), these developments have potentially significant benefits for the field of library and information science (McKinley, 2012). However, these developments have been most explored in the context of libraries in the Global North. In many instances, these crowdsourcing initiatives do not explicitly contain geospatial components, and crowdsourcing is generally described in terms of increasing user engagement and connecting libraries to communities. While the most detailed understanding of crowdsourcing comes from Estellés-Arolas and González-Ladrón-de-Guevara (2012), Holley (2010: 2; emphasis added) makes a helpful distinction in that “crowdsourcing relies on *sustained input from a group of people working towards a common goal*, whereas social engagement may be transitory, sporadic or done just once.” In this sense, libraries have utilized crowdsourcing to increase the usability of archival content (Lascarides and Vershbow, 2014; Severson and Sauv e, 2019), create and curate new content (Oomen and Aroyo, 2011), and transcribe and correct existing content (Holley, 2010), among many other varied applications. Crucially, crowdsourcing has proven a strategic way for libraries to overcome gaps in funding for public-facing projects—a need echoed by mapping-related initiatives as well (Koontz et al., 2004; Li et al., 2016). As Holley presciently states:

Libraries and archives will never have the resources to fully do what they or the users want so crowdsourcing is an opportunity that should be seriously considered . . . [and] could prove to be the most useful tool a library can have in the future. (Holley, 2010: 19)

There are a few examples of Global North libraries using maps for crowdsourcing purposes. For example,

user geolocation data has been integrated with library catalogue information (Li et al., 2016; Ying Chia, 2014) and “ask a librarian” chat services (Mon et al., 2009) to improve the user experience. Mapping has also allowed libraries to reach out to potential users, for example, by overlaying library locations with socio-economic information to highlight factors impacting access (Thorne-Wallington, 2013) or to define branch target areas and goals based on local population data (Koontz et al., 2004). In each of these cases, geolocation data has been supplemented with relevant community information in order to meet the needs of current and potential library users.

However, a review of the literature revealed that few studies have rigorously evaluated the impact of crowdsourced mapping as an effective tool for libraries. One prominent example is the New York Public Library’s (2020) Map Warper, aiming to digitally align historical maps in the archives with more modern geolocation data as verified by volunteers to visualize urban development over time. This project has been deemed “successful” in yielding numerous digitally verified maps, yet “participation, while consistent, has been more modest and confined to a specialist audience” (Lascarides and Vershbow, 2014: 117). As another example, Indiana University Bloomington’s Herman B Wells Library organized a “mapathon” to engage community volunteers in contributing to the Humanitarian OpenStreetMap in disaster-affected areas (Quill, 2018). Quill (2018) defines its success more in terms of social benefits to the community, specifying data and map literacy skill development as positive impacts, in addition to meaningful engagement between the volunteers. Other studies also point out challenges associated with crowdsourced mapping in library settings, including difficulty attracting volunteers, maintaining data quality, coordination, and issues related to technical literacy (Causer et al., 2012; Lascarides and Vershbow, 2014; Oomen and Aroyo, 2011; Quill, 2018). Even less is known about how these benefits and challenges affect libraries and librarians themselves, beyond the indirect benefit to patrons.

In addition, a vast majority of these reports are from library and information science settings in the Global North, where accurate geographic data may be more available, and more resources may exist for implementing and maintaining such efforts. On the one hand, crowdsourcing may be an even more powerful method for libraries in the Global South, given a lack of comprehensive data and data governance structures. On the other hand, some may think that the benefits described above are simply out of reach for libraries in Africa, given the perceptions of key stakeholders that





**Figure 1.** Mapping platform: location submission view.

libraries have limited Internet connectivity and less access to technological resources and skills (Elbert et al., 2012; Fellows et al., 2012). Given these challenges, the question remains as to whether crowdsourcing can benefit libraries and their stakeholders on the ground in Global South contexts.

This article, then, seeks to answer the following research question: What are the benefits of a crowdsourced approach to data collection for the library and information science field in the Global South?

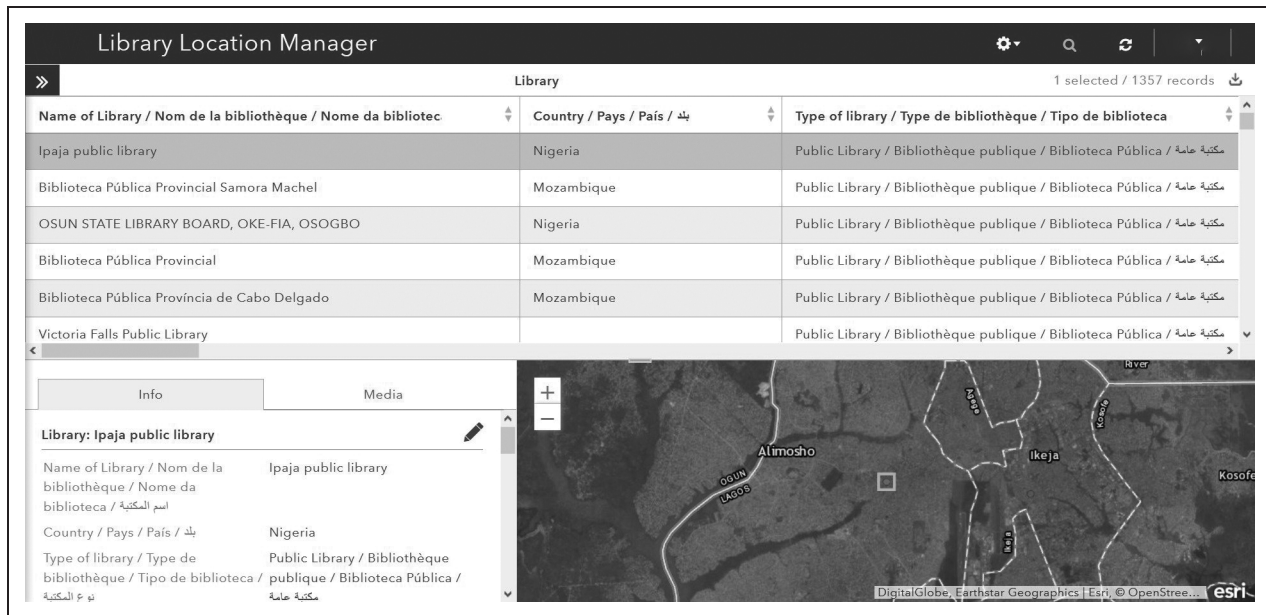
### *Case study: mapping libraries in Africa*

This article attempts to answer that question by evaluating the impact of a crowdsourcing project carried out by the Technology and Social Change Group, a research group at the University of Washington, and African Library and Information Associations and Institutions (AfLIA), an international non-governmental organization. This crowdsourcing, which was carried out within the program Advancing Library Visibility in Africa (ALVA), had the purpose of mapping public and community libraries across Africa as part of a larger effort to equip public libraries in Africa with knowledge and the tools to demonstrate their value as development partners through building capacity to collect and analyze data.

Through an early attempt to establish a baseline understanding of the landscape of public libraries across Africa, it became clear that the government agencies in most countries do not have data on the number or precise locations of their libraries. Other

sources such as the ‘Library map of the world’, maintained by the IFLA (2020a), provide basic statistics of library numbers and types for each contributing country, but the specific library locations are not available, and no data is reported for many African countries. Therefore, the research team started a mapping project to map the specific location of all public and community libraries across Africa. The project seeks to collect this geolocation data alongside additional organizational data, with the goal of producing a map-based platform that can be used to connect libraries to potential partners. The idea was that the map could serve as a platform for development success stories and other community information desired by development organizations to further facilitate potential partnerships.

However, the lack of pre-existing data and ambitious geographic scope of the project necessitated a crowdsourced approach to mapping. In addition, the goal is for the platform to be sustainable and led by AfLIA in the long term. With these goals in mind, the team iteratively developed and tested a mapping platform that could be used by library sectors across Africa. The final platform (see <https://librarysites.io/>) is built on Esri ArcGIS Online Crowdsource Reporter, which is a template that can be easily adapted to produce custom online mapping services for facilitating crowdsourcing. When users open the application on their phones, the application prompts them to enter the location of a library either manually or through the use of an autolocation feature that leverages their mobile device’s GPS (Global Positioning System) utility, as shown in Figure 1.



**Figure 2.** Mapping platform: library location manager view.

In order to improve the accuracy of the submissions, we train librarians to use the autolocation feature and to submit information from the physical location of the library. The user is then prompted to enter the library name, its type (public, academic, etc.), and contact information for both the library and the user, with the option to submit a photograph of the library (see Figure 1). In the long term, ALVA has plans to add fields for additional library information, such as staffing, annual visits, and so on. To inform these additions, we are currently conducting a survey of in-country library staff concerning which types of data they collect in order to understand national data priorities and what data is currently available internally. We will work with national libraries to publish some of this data to the mapping platform to make it more visible and accessible. Concurrently, we are interviewing key informants from development organizations to determine what types of library data would be most persuasive to them. This information can inform in-country data-collection practices so that they can be adjusted to collect the desired information. The hope is that we can leverage our mapping platform to display these types of data in order to tell a powerful story about the role of libraries as development partners.

The geolocation is then verified by the ALVA researchers using a separate management system, built on the ArcGIS Online Crowdsourcing Manager, as shown in Figure 2. To complete this quality assurance process, we use a series of criteria to determine if the submitted location is likely to be accurate. For example, the platform allows administrators to use satellite

imagery to verify that the submitted location is at or near a specific building. If these or other quality control measures have not been met, the submission is flagged, and a research team member communicates with the user for clarification. Once a library has been fully approved, it is displayed as “accepted” on the display map (<http://display.librarysites.io>) and can be viewed by anyone accessing the platform.

ALVA has also prioritized making the mapped data openly available and easily accessible, for both library stakeholders and the general public. The data set is available for download by any government or non-official entity via the Open Science Framework site (<https://osf.io/685hm/>), and this opportunity for downloading has been shared with project “Champions” as well as participating government ministers and national librarians at related events. For example, the ALVA team presented the mapping project to national librarians as part of the 3rd Ministerial Roundtable Meeting on Information Access in Accra, Ghana, in 2019. The goal of this presentation was to give the national librarians an update on the project’s progress, to give them the opportunity to increase their country’s participation in ALVA, and to share information about how they could access the data that had already been collected. At the meeting, there was great interest in exploring the ways ministers could support the data collection to realize the role of libraries in national development. We have also explored ways to leverage the existing open-source data platforms to increase the visibility of our work so that it has a greater impact. Because the library location data is licensed openly and

can be used without attribution, we have been able to integrate it into other related projects such as Wikimedia's FindingGLAMs platform (see <https://meta.wikimedia.org/wiki/FindingGLAMs>), which further increases the visibility of Africa's libraries.

In order to facilitate the process of collecting and verifying the library data, the research team also determined the necessity of local "Champions." These are in-country individuals who would be able to bridge the gaps common in similar projects in the Global South, such as limited access to technological infrastructure outside of urban areas and lack of widespread public interest, which crowdsourcing otherwise depends on (for more information on facilitated crowdsourced mapping in South Africa, see Cinnamon and Schuurman, 2013). Using the networks and expertise of AfLIA, we solicited well-connected library professionals who would be trained and paid a small stipend by the project to direct the data-collection efforts and promote participation among a wide range of librarians around their respective countries. This way, the mapping platform could be public-facing and available for anyone to contribute data while assisted by in-country Champions as they saw fit. For some Champions, this has involved training librarians via workshops and messaging applications; for others, it has made more sense to travel to library locations directly to map them. As of October 2019, Champions in 23 countries had agreed to participate; these Champions were trained by AfLIA and later invited to a stakeholder meeting to discuss the project, as described in the next section.

## Methods

This section describes the methods we used to evaluate the impacts of crowdsourcing. They included a survey and focus group work with the Champions at a workshop in Accra, Ghana.

The 23 Champions who were actively contributing to the mapping were invited to participate in a Champions Meeting held in Accra, Ghana, for three days in October 2019. Twenty-two Champions participated in the meeting in addition to four researchers from the Technology and Social Change Group and AfLIA. The participants were library professionals from 23 countries across North, Southern, East, West, and Central Africa. All were asked and agreed to serve as the Champion for the ALVA project in their respective countries. The countries, names, and institutions of the participants are withheld here to protect their privacy. The participants gave their informed consent to be included in the study when they agreed to attend the meeting.

The overall purpose of the meeting was to share and examine the Champions' experiences implementing crowdsourced mapping in their countries and to discuss ideas for the long-term sustainability of the project in their countries. Prior to the meeting, the Champions completed a survey about their experience contributing to the mapping work. At the meeting, the Champions gave individual presentations about their experiences and reflections on participating in the project. The Champions then discussed their experiences in focus groups and presented to the full group on their major themes.

The data analyzed here was collected from three sources:

1. A written survey, which was sent to all 23 Champions via an email link and completed in an online survey portal in the language of their choice (English, French, Portuguese, or Arabic). The Champions gave their informed consent to participate and were asked for either open-ended or categorical responses. The topics covered included background on the participant's job within the library field; their prior experience with performing data collection in their job; the bureaucratic, technological, financial, or other challenges that they encountered while participating; the benefits from participation and the crowdsourced data; and ideas for making the project sustainable in their respective countries. Twenty-three Champions completed the survey.
2. Individual presentations, which were prepared in advance of the meeting by the Champions according to a presentation template that asked them to report on their adopted methods for facilitating crowdsourcing, the challenges encountered, the lessons learned, the benefits of participating in the project, and ideas for project sustainability. Twenty-two Champions gave individual presentations on the first day of the meeting.
3. Focus group presentations from four different focus groups composed of five to six individuals. The groups were formed by the research team based, first, on similarities in national language (English or French) and, second, on broad geographic region (West, Southern, Central, and East Africa) with the understanding that this would allow for ease of communication and sharing of regionally relevant insights, where applicable. After the individual presentations, the focus groups summarized and discussed the most salient financial, technological, and bureaucratic problems and benefits related

to the project, and were asked to come to a consensus on the top three of each. One researcher was present with each group, and one individual from each group then presented their findings to the larger group on the first day of the meeting.

The data collected was in English, French, and Portuguese. During the meeting, interpreters were present to translate between English and French or Portuguese, according to participant needs. The data written in French or Portuguese was translated into English using Google Translate, and the French translations were reviewed by the researchers. The data was analyzed inductively and recursively using a grounded theory approach (Glaser and Strauss, 1967). For this article, the primary focus was on the benefits of crowdsourcing; therefore, initial codes around the idea of “benefits” were developed based on the analysis of the survey data. The researchers created codes based on the types of benefits that were commonly expressed by multiple participants across the data sources. These codes were then applied to the data from the individual and focus group presentations and revised on an iterative basis. The findings were triangulated across the data sources, and specific data points are provided here to illustrate both typical and outlying examples.

### Findings: benefits

Our findings indicate that a majority of those participating benefitted from the project in some way. When asked in the survey “Have you, your organization, or the library sector of your country experienced any benefits, either direct or indirect, from participating in the project?” 83% of the participants responded “yes,” with only 17% responding “no.” Given the benefits explained by the participants, three main categories related to the crowdsourced nature of the project emerged: increased connections among various stakeholders, capacity-building, and increased visibility locally.

#### *Increased connections*

A strong overall theme of our findings was the influx of connections that had resulted from the crowdsourced mapping work. From the Champions’ responses, it is clear that they experience this platform as “an opportunity to establish contacts with librarians across the country and world,” as described in an individual presentation. Across the data sources, they spoke to creating new connections and strengthening existing networks as a result of taking a crowdsourced approach to mapping. These connections flourished between various groups of stakeholders.

*Between librarians.* In many cases, a crowdsourced approach resulted in increased connections between librarians. At the outset, the Champions had to find or create listings of libraries for contacts in order to solicit librarians and library locations to participate. Several of the Champions noted that no database or listing of library locations, staff, and contact information had existed in their countries prior to the launch of this project. To facilitate an open call—a key feature of a crowdsourced approach—the Champions had to collect contacts to create a Facebook group, WhatsApp group chat, or other type of forum to solicit librarians en masse. This is illustrated by an example survey response that a major benefit of the project was the “creation of several formal and informal communication networks of library staff on social media.”

These increased connections between librarians are leading to collaboration and increased motivation among library staff, as indicated by the Champions. As one focus group noted, the “project has provided a forum and inspired librarians to come together for sharing of ideas among librarians.” Additionally, in the survey, a Champion reported: “Librarians are positing/sharing information on the communication platforms—such as library events, happenings, studying opportunities, funding opportunities. Others are eager to list the library on the platform, to be visible just like others.” This also implies that being included in a visible professional network may also have been a built-in motivating factor for librarians to participate in the mapping activity. This corresponds with an example comment from an individual presentation, explaining: “Seeing other libraries listed—librarians are eager to ensure that their libraries are listed on the ALVA platform too.”

The Champions noted that these connections resulted in concrete ongoing benefits for librarians themselves. As an individual presentation asserted, “Contacts have been established between colleagues, which augurs well for future cooperative efforts in the face of challenges in the profession,” with specifics mentioned such as awareness of opportunities for funding, as stated above, and mentorship, which was ranked as a top benefit by one focus group, describing a “mentoring forum for young librarians to be connected with senior librarians to meet.” This is echoed by a survey response which noted that the project had “formed mentorship forums for struggling community libraries.” While the intention of the original project was to increase connections between libraries and development partners, the connections fostered between librarians have gained significant value for the participants themselves.

*Between libraries and their stakeholders.* Within the wider library landscape of the Champions' countries, it seems that the crowdsourced nature of the project is connecting libraries with a variety of community actors, from different types of libraries (for example, "Direct benefits include getting to know all the different libraries available in the country and meeting some of the librarians working in these institutions," from an individual presentation) to library users (for example, "Our direct collaboration with library managers allowed us to discover and understand certain challenges of public reading in [the country]," from an individual presentation). This visibility also extends to AfLIA as a stakeholder. As stated in a survey response: "Librarians now know each other better and they now appreciate AfLIA." This suggests increased connection to members and potential members facilitated by this process, and even other libraries on the continent, as shared in an individual presentation: "we are able to access library locations of other public and community libraries from African participating countries and compare with our own."

This was underscored by a strong sense among the Champions that the connections fostered by this project would be useful for strategic relationships in the future. For example, in an individual presentation it was expressed that: "The data collection will serve as a tool and argument for advocacy with those in government for the involvement of public and community libraries in actions, programs and development projects at national and institutional level." This is accompanied by a focus group comment, which named the "opportunity for networking within local and international institutions" as one of the top benefits of participating in the project. Likewise, another focus group elucidated: "Submission of report and partnership with external organizations." Overall, this represents a wider set of stakeholders than was initially imagined in the mapping project, and these benefits are intimately tied to increased local visibility.

### *Capacity-building*

Due to the crowdsourced approach, this work is also building various capacities among the participants. The Champions see the connections it facilitated as a factor in increased professional capacity, as illustrated by the following point from an individual presentation: "The project has enriched our contact networks and provided avenues for overcoming challenges on the ground." This was especially salient for three groups: librarians, Champions, and their organizations.

*For librarians.* Overall, the Champions described the benefits to librarians in terms of new technical skills gained in the process, as narrated in an individual presentation: "Librarians in public libraries benefitted immensely by learning new skills. They noted that they had never participated in such a project and were happy to be a part of it." Additionally, a survey response emphasized that the project provided a "great opportunity to train librarians on how to locate their libraries on the map. The librarians improved their skills and some were excited to be part of a global research." Such responses imply that librarians are learning more about mapping, as well as the process of international research, as a result of the crowdsourced methodology, which they find valuable in their contexts.

*For Champions.* Also notable to the research team was that the Champions were able to gain professional experience that was of high value to them as a result of their participation. The survey found that a majority of the Champions (65%) had not participated in other data-collection projects in the past five years and, from their responses at the meeting, it was clear that much was gained from this opportunity.

Many of the Champions framed the benefits of the project in terms of increased awareness of the library terrain in their countries, as described by an individual in their presentation:

It gave me a better insight into the state of public libraries and the library field in [my country]. It provided the opportunity to identify the skills gaps of librarians in public libraries, especially in data collection practices and use of the Internet.

In multiple cases, this yielded awareness of libraries that either the Champion or their library association did not know existed, as illustrated by an example from the survey: "Been able to locate libraries which we didn't know existed and added them to our database of libraries which aid research."

Additionally, the Champions reported that they themselves had learned new and valuable skills, as three of the four focus groups mentioned increased skills for the Champion as a top benefit of participating. This was asserted in an individual presentation: "The skills in engaging with the survey and platform are priceless." The specific skills cited included using technological platforms such as Zoom for communicating and ArcGIS for submitting data, as well as "Development of my art of convincing" (from the survey)—presumably in negotiating with managers and recruiting participants for the project. In addition, the Champions reported flexibly responding to the

challenge of engaging library staff with varying levels of capacity. They reported a number of creative ways to teach and troubleshoot the mapping platform, such as holding in-person workshops, discussing issues over the phone, sending screenshots for training via WhatsApp, and creating videos in local languages that were shared on YouTube. It was common for the Champions to engage multiple modes of communication for various contexts in their countries.

The Champions conveyed that these skills plus knowledge fuel an increased capacity to serve as leaders in future research. As two individuals noted in their presentations, “For us Champions, this is an experience that will serve us in professional life and allow us to lead other national or international projects” and, more emphatically, “Our participation in this project as Champion gives us the experience, the tools and the contacts necessary to lead other projects of national scope in the field of libraries.” As one concrete example, a Champion mentioned that the contacts and insight gleaned from participation in this project were utilized for their own research, which was then presented at an international conference. As an overriding sentiment, another Champion expressed in their presentation that: “The travel to these places opened another horizon and interest in working towards availing information for access to all.”

*For organizations.* Across the sources, the Champions shared that the contact information gathered as a result of crowdsourcing would be dually used to update the databases of their national libraries and associations. The information then provided for new possibilities for the organizations, as illustrated by this survey response: “The project has helped us to know who is in charge of a particular library and where they are located; this has helped in terms of coordinating issues and getting the statistics right.” Additionally, as stated in an individual presentation: “The data collected from the project is a source for the national association in making decisions and setting up similar projects.” This data was noted by many Champions across the sources as having the value of being “accurate” and “reliable,” in addition to being updated, enabling a growth in capacity for their organizations, such as in the “training and development of the library fraternity,” as shared in an individual presentation.

### *Increased local visibility*

The findings also indicate that our crowdsourced methodology increased the visibility of the project locally for libraries and their Champions. For instance, a Champion who attended the meeting reported that

some librarians have taken the initiative beyond the platform to add the location of their libraries on Google Maps and Facebook (Here WeGo maps), having become more aware of, exposed to, or trained on how the visibility of their libraries can be enhanced through GPS mapping. In fact, the library authorities of certain countries have now decided to simultaneously add the locations of their public libraries on Google Maps while providing data for this project.

In addition, participation has raised visibility for libraries at higher levels of local governance. A significant portion of the Champions (52%) reported in the survey that they needed to get permission to participate in our project, often from a superior, and there was a general trend among the survey responses for the Champions to start at the top of local bureaucratic hierarchies (such as a minister or local authority) to secure their permission before proceeding with the data collection. While this could be perceived as an extra challenge, it also appeared as a benefit in that this mapping work reflected well on the library sector. As shared in an individual presentation:

All institutions contacted for this project and their personnel know that their libraries have more value than they expect (awareness of the library importance). People are willing to know more how this will be beneficial to them (engagement to explore the sector).

In another case, a Champion mentioned contacting their city council for permission, which in turn “offers opportunities for partnership with City Halls in the field of libraries and municipal archives.” This speaks to the extended local benefits of the project resulting from the facilitated crowdsourcing approach, showing that the Champions effectively laid the groundwork for strategic relationships in the future through putting themselves on the map.

### **Discussion**

These findings indicate that both libraries and their stakeholders “benefit from [the] *mutual recognition*” (Oomen and Aroyo, 2011: 146; emphasis added) enabled by a crowdsourced approach. Although this mapping was undertaken to make libraries in Africa more visible to external partners, the Champions and librarians are now more visible to each other, as well as local stakeholders. These findings resonant with Holley (2010: 2), who states that crowdsourcing “demonstrat[es] the value and relevance of the library in the community” through wider involvement while simultaneously “improving the quality of data/resource[s].” For libraries and their Champions, these two seem to go hand in hand as more and better data

collected via this project is seen as directly impacting the libraries' social standing through increased visibility. As Quill (2018: 161) notes, this can empoweringly fill gaps in government or other authoritatively produced sources to "democrat[ize] the process of mapping, giving agency to lay people to literally put themselves on the map." In this case, the crowdsourced approach to mapping is allowing the Champions and librarians to put themselves on the map and actively advocate for libraries as an institution in the process.

The findings also confirm that this project is truly "utilising the knowledge, expertise and interest of the community," such that crowdsourcing builds "trust and loyalty" to the institution among the participants (Holley, 2010: 3). Further, the multifunctional role of the Champions is a reminder that, in the words of Wilken et al. (2019: 9), "[l]ocation technologies do not supplant but rather supplement forms of knowing place and location." Our findings reflect that this project would not be as successful without the on-the-ground efforts of the Champions, which have mutually benefitted them. This work can serve as a counter-example to the negative experiences of Omanga and Mainye (2019), who report that the prime beneficiaries of crowdsourced mapping in Nairobi, Kenya, are actually "individuals drawn from a social network within NGOs [non-governmental organizations] working in the slums" (274) for whom "Africa is understood as . . . a mere source of primary data" (273). The positive effects enumerated by the Champions suggest that they, librarians, their organizations, and libraries as institutions are benefitting locally and will continue to benefit from this crowdsourced data-collection effort.

Our findings also resonate with Quill's (2018) description of libraries as community spaces that build social connections. This was a common theme, which reflects that, as noted by Young and Gilmore (2013: 809), participatory forms of mapping can have benefits of an emotional nature: "In our case, [participants] demonstrated emotions like pride, bonded politically, and educated one another with different views on their shared history." Oomen and Aroyo (2011: 146) also put crowdsourcing benefits in social terms, tied to user motivation for "connectedness and membership," "sharing and generosity," and "altruism, fun and competition." These emotional benefits were not the focus of our original project but are clearly very valuable for the participants, their newfound networks, and ongoing research.

It is clear that a facilitated approach to crowdsourcing was integral to the realization of these benefits in the Global South context, similar to the experience of Cinnamon and Schuurman (2013). The Champions

reported being able to act as intermediaries, which resulted in the capacity-building and increased participation of others. The Champions thus helped to fill gaps in technological skills, echoing Quill (2018: 164), who noted that it is advantageous to have a "facilitator" to "float around" and "individually assist" participants while conducting mapathons in the library space. Further, the local presence of the Champions allows for ongoing support, similar to Lascarides and Vershbow's (2014: 117) observation that Map Warper "worked best when accompanied by hands-on training or situated residencies . . . that occur over multiple weeks." Importantly, this also highlights that "allowing participants to *work together* on the map fosters discussion and allows more hesitant participants to engage in a less direct way" (Quill, 2018: 161; emphasis added), which is evidenced by the Champions' reports of engaging reticent librarians and their managers. Holley (2010) and Quill (2018) support the fact that engaging in this work builds capacity in technology and literacy skills, which is, fittingly, a shared goal of many development organizations (Sears and Crandall, 2010), further highlighting that the library is a "natural home for this type of activity" (Quill, 2018: 161) and an important player in development. As a result, the role of the Champions can be seen as more analogous to "virtual community managers" who "nurture, stimulate, and moderate online interaction" between volunteers to ensure the success of a crowdsourced project (McKinley, 2012: 6). The Champions have proven a crucial factor for our project's ability to map over 701 public and community libraries while simultaneously creating and strengthening networks that were leading to the further empowerment of library professionals in a total of 29 countries as of March 2020.

While the facilitated approach to crowdsourcing is a uniquely valuable aspect of our project, it does raise concerns about crowdsourcing and responsabilization in the neo-liberal climate of global development. In the increasingly fractured landscape of NGO and multi-lateral funding (see Ingram and Lord, 2019) that has rushed in to fill gaps in state budgeting for public institutions, left in the wake of western-driven structural adjustment policies, libraries themselves bear the brunt of efforts to appeal to other disparate sources (see Schnable, 2015; Stranger-Johannessen et al., 2014). The role of the Champion embodies this extra labor of connecting individual libraries to the elusive promise of funding. Although the Champions were financially compensated in this project and reported mutual benefits, their proven value leaves critical questions about the nature of labor in crowdsourcing and in the Global South, as well as long-term sustainability. Such

questions are beyond the scope of this article, but our other reflections on this project (see Young et al., 2020) engage similar critical questions.

## Conclusion

In reflecting on the quality of volunteered geographic data, Elwood et al. (2012: 580) remind us that “[i]t is impossible to create a perfect representation of any aspect of the geographic world—all geospatial data are of limited quantity”—and, ultimately, the power to decide the quality of such data lies in the hands of its users. Our findings have illuminated the ways in which the Champions and librarians across Africa are creating a locally authoritative set of data through their own crowdsourced efforts. Although the collection of this data was originally intended to facilitate connections with development organizations, the benefits of its crowdsourced approach have taken on a life of their own, increasing connections between librarians, Champions, and stakeholders; building capacity among librarians, Champions, and their organizations; and increasing local visibility. Overall, this reaffirms Young and Gilmore’s observation that

maps are powerful, not only because of what they represent but also because the process of mapping forces communities to come together and think about how they share the stage of production, particularly with the inclusion of the spaces in which they live. (Young and Gilmore, 2013: 820)

For African libraries, it seems that this process has been likewise powerful and effective towards the shared goal of, in the words of one Champion, “[f]acilitating access to librarians and the library through geolocation.”

We recommend the crowdsourced approach for similarly positioned institutions to mobilize the potential of Global South communities to collect their own authoritative data. As demonstrated by our findings, the benefits reach beyond the scope of data collection itself to profit contributors on the ground. We further recommend a facilitated crowdsourcing approach, mediated by individuals such as in-country Champions, as they were the nexus of many of the benefits we found, including building capacity among librarians as well as raising visibility among local stakeholders. Their labor should be recognized and remunerated where possible; at the very least, the work should benefit the participants in concrete ways, such as in expanded networks, professional experience, skills enhancement, and access to opportunities to utilize the collected data for self-advocacy. Of utmost importance is ensuring the longer-term sustainability

of the project, in consultation with the Champions and corresponding government ministers. During the Champions meeting, we dedicated the second day to discussions about sustainability, since the current practice of providing Champion stipends from ALVA funding is not sustainable over the long term. During the meeting, we first had four national librarians give presentations about their own thoughts on making the project more sustainable, and then broke the Champions into focus groups to brainstorm ways forward for the project. Across all of the groups, the most agreed-upon suggestion was to shift from externally supplied stipends to better integrating the crowdsourcing efforts into ongoing government work. This could be accomplished in most countries by folding the data-collection efforts into the mandate of the national libraries or related authorities with budget allocated to support ongoing data collection. This recommendation was later shared with national librarians as part of the following Ministerial Roundtable mentioned above. Folding the project into national library efforts could be facilitated by the fact that we had selected many of our Champions based on their existing affiliation with national libraries. Our hope is that these efforts will raise awareness of the project, and its potential, with government officials, and thereby improve our chances of being sustainable over the long term.

These findings are specific to 23 countries in Africa, but more research is needed to apply them across other countries in the Global South. These findings are also filtered through the experiences of the Champions, so further research could directly engage a wider variety of stakeholders, such as librarians and managers, to verify and compare perspectives. An additional problem remains of how to quantify these social benefits, given the context of neo-liberal accountability and competition for funding, as forecasted by McKinley (2012: 5). Further research will help make the benefits of crowdsourcing more visible and sustainable going forward.

As a next step, ALVA is beginning to carry out in-depth research on data-collection practices in public libraries across its partner countries. By understanding the process more, the resulting data can be used to further benefit African libraries and their stakeholders. Our hope is that this process will highlight the ongoing role of libraries in development so that libraries and development organizations can better realize that potential.

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# Awareness, anchor and adjustment factors in the use of institutional repositories by Nigerian lecturers

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## Abstract

Institutional repositories have been established in universities globally because of their immense benefits to various stakeholders, especially lecturers. However, the literature has confirmed that institutional repositories are little used by lecturers. Previous studies have examined attitudes and disciplines, for example, but there seems to be no study on anchor and adjustment factors. This study therefore investigated awareness and anchor and adjustment factors as determinants of use of institutional repositories by lecturers in Nigeria. A descriptive survey and a purposive sampling technique were used to select universities that had had functional institutional repositories for at least four years at the time of data collection. A questionnaire was used to collect data from 857 lecturers. The study reveals that awareness and anchor and adjustment factors are determinants of use of institutional repositories by lecturers in Nigerian universities. The study recommends that more awareness programmes should be organized by libraries and that lecturers should constantly use computers to improve their computer self-efficacy and computer playfulness.

## Keywords

Anchor factors, adjustment factors, awareness of institutional repositories, lecturers, Nigerian universities, use of institutional repositories

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## Introduction

Institutional repositories are digital platforms for scholarly communication in the 21st century. Globally, institutional repositories are used as digital archives where scholarly works are deposited, and as information sources where scholarly works are accessed and retrieved. Prior to the establishment of institutional repositories, most libraries could not subscribe to many journals due to cuts in library budgets resulting from economic recessions globally. This made it difficult for scholars to access scholarly works and stay up to date with trends and developments in their different disciplines. Hence, the purpose of institutional repositories is to archive research findings; disseminate findings, trends and developments; and make access to research findings and trends by colleagues and the general public much easier. Therefore, institutional repositories are digital platforms that are used by institutions and organizations to

archive, manage, disseminate and showcase their intellectual works.

There are immense benefits in using an institutional repository; its use as an archive enhances visibility for the author, thereby resulting in an increase in their citation rate, and it is also a marketing strategy for the author and the institution. An institutional repository also locates similar research work together, providing a central platform for related research findings. Moreover, its use as an information source enables researchers to access and retrieve relevant articles, keeping them abreast of trends and issues in their chosen discipline. It also empowers and speeds up their research

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work by providing access to what others have done in their discipline; they thereby stand on the shoulders of other scholars (Bamigbola, 2014; Cullen and Chawner, 2010; Jain, 2011; Omeluzor, 2014).

As a result of the notable benefits of institutional repositories, Electronic Information for Libraries motivated stakeholders in Nigeria (the Nigerian University Libraries Consortium and the Department of Library and Information Science at Ahmadu Bello University, Zaria) to organize the first open-access workshop, which was held at Ahmadu Bello University. Scholars, researchers, librarians, policymakers, information and communications technology experts, and editors-in-chief of peer-reviewed journals were in attendance (Christian, 2008). In addition, a follow-up workshop was held in November 2009 at Ahmadu Bello University and a third workshop was organized by Dr Joseph Ana of the *British Medical Journal's* West Africa edition (Okoye, 2013). These initiatives and workshops, which were geared towards open science, resulted in the signing of the Budapest Open Access Initiative by seven institutions in Nigeria – namely, Ahmadu Bello University Press; the Federal College of Education, Akoka; the Forestry Association of Nigeria; the Science Education Development Institute; the College of Medicine at the University of Ibadan; Usmanu Dan Fodiyo University, Sokoto; and Wilolud Journals. Also, the Department of Library and Information Science at Ahmadu Bello University changed its two journals – the *Samaru Journal of Information Studies* and the *Information Manager* – to open access (Okoye, 2013). The most evident result of the aforementioned initiatives is the establishment of open-access institutional repositories in some Nigerian universities, although some of these are still at the development stage (preliminary data).

The establishment of institutional repositories in Nigerian universities therefore commenced in 2009, and the number has steadily grown over the past 11 years. According to the Directory of Open Access Repositories (OpenDOAR), as of August 2020, there were 30 institutional repositories in Nigeria; 27 of them are owned by 20 universities. Out of the 170 universities in Nigeria, 14 universities own one institutional repository each, five universities own two institutional repositories each, while one university owns three institutional repositories. Two of the institutional repositories belong to the discipline of health and medicine (the College of Medicine at the University of Ibadan and the medical librarians in Kenya, Mali, Nigeria, Zambia and Zimbabwe) and one is owned by the Central Bank of Nigeria.<sup>1</sup>

However, in spite of all the benefits of using institutional repositories, one of the persistent challenges

for institutional repositories globally is the low rate of submission of scholarly works by lecturers, who are the major stakeholders (Chilimo, 2016; Gunasekera, 2017; Yang and Li, 2015). In Nigeria, previous studies have also confirmed the lack of use of institutional repositories by lecturers (Bamigbola, 2014; Bamigbola and Adetimirin, 2017; Ivwighrehgweta, 2012; Ogbomo, 2012). The low submission of scholarly works into institutional repositories by lecturers has constituted a major problem for the success of the establishment of institutional repositories because institutional repositories without content are like empty shelves in a library, and their purpose is defeated. As a result, previous studies, internationally and in Nigeria, have investigated variables such as, for example, attitude, discipline, awareness, institutional factors, demographic factors and social factors (Bamigbola, 2014; Creaser et al., 2010; Dutta and Paul, 2014; Ogbomo, 2012). The problem of the low use of institutional repositories by lecturers persists, especially in Nigeria; hence, there is a need to examine other factors that might be responsible for this problem. There seems to be no study that has examined the combination of awareness and anchor and adjustment factors in the use of institutional repositories by lecturers in Nigerian universities. Premised on this, this study examined the low use of institutional repositories by lecturers in Nigerian universities by investigating awareness and anchor and adjustment factors as determinants of the use of institutional repositories.

It is obvious that awareness of any phenomenon or innovation precedes its use. Awareness is a state of consciousness of the existence, potentials and viability of something. Dutta and Paul (2014) averred that a lack of awareness of the institutional repository was the main problem in the low use of the institutional repository by most of the faculty members at the University of Calcutta. Therefore, there is a relationship between awareness and the use of an institutional repository. Awareness of the existence, potentials and benefits of institutional repositories by lecturers could determine their use.

Anchor and adjustment factors are variables adapted from Technology Acceptance Model 3 (TAM 3), propounded by Venkatesh and Bala (2008). TAM was originally proposed by Davis in 1989. TAM is used to predict the adoption and use of new information technology. The model proposes that the acceptance and use of a new technology by users are influenced by two beliefs or perceptions – that is, perceived usefulness and perceived ease of use. TAM was expanded, which resulted in TAM 2 (Venkatesh and Davis, 2000). Venkatesh and Davis (2000) proposed five general determinants of perceived usefulness: subjective norm, image, job relevance, output quality and result demonstrability.

In addition, they proposed two moderators: experience and voluntariness. Venkatesh and Bala (2008: 278) extended TAM 2 to include determinants of perceived ease of use and perceived usefulness, which resulted in TAM 3. In particular, anchor factors (computer self-efficacy, perceptions of external control, computer anxiety and computer playfulness) and adjustment factors (perceived enjoyment and objective usability) were added as determinants of perceived ease of use. Therefore, this study was anchored by the determinants of perceived ease of use as proposed by Venkatesh and Bala (2008: 279) in TAM 3. This was done because perceived ease of use has been submitted to be a stronger predictor of intention to use and actual usage of any technological innovation, especially in developing countries (Miller and Khera, 2010).

Anchor factors are general beliefs about computers and their usage, which are based on three general constructs: control, intrinsic motivation and emotion (Venkatesh, 2000). Control is divided into perception of internal control (computer self-efficacy) and perception of external control (facilitating conditions). Intrinsic motivation is computer playfulness, while emotion is conceptualized as computer anxiety. Therefore, the anchor factors are computer self-efficacy, perception of external control, computer playfulness and computer anxiety.

Adjustment factors are the second variable that was added to TAM 2 to form TAM 3 by Venkatesh and Bala (2008). It is noted that the initial assessment of ease of use of any system is driven by anchor factors, but after a direct experience with a new system for a period of time, individuals adjust those judgments. There are two system characteristics related to adjustments – perceived enjoyment and objective usability, which determine perceived ease of use (Venkatesh, 2000).

This article therefore investigates awareness, anchor and adjustment factors as determinants of the use of institutional repositories by lecturers in Nigerian universities.

### Objectives of the study

The main objective of the study was to investigate awareness, anchor and adjustment factors as determinants of the use of institutional repositories by lecturers in Nigerian universities. In order to achieve this, the specific objectives were to:

1. ascertain the relationship between awareness and the use of institutional repositories by lecturers in Nigerian universities;
2. examine the relationship between anchor factors and the use of institutional repositories by lecturers in Nigerian universities;

3. establish the relationship between adjustment factors and the use of institutional repositories by lecturers in Nigerian universities;
4. examine the composite contribution of awareness and anchor and adjustment factors to the use of institutional repositories by lecturers in Nigerian universities;
5. ascertain the relative contributions of awareness and anchor and adjustment factors to the use of institutional repositories by lecturers in Nigerian universities.

### Hypotheses

Five null hypotheses guided the study:

1. There is no statistically significant relationship between awareness and the use of institutional repositories by lecturers in Nigerian universities.
2. There is no statistically significant relationship between anchor factors and the use of institutional repositories by lecturers in Nigerian universities.
3. There is no statistically significant relationship between adjustment factors and the use of institutional repositories by lecturers in Nigerian universities.
4. There is no statistically composite contribution of awareness, anchor and adjustment factors to the use of institutional repositories by lecturers in Nigerian universities.
5. There are no statistically relative contributions of awareness, anchor and adjustment factors to the use of institutional repositories by lecturers in Nigerian universities.

### Literature review

Relevant literature on the variables was reviewed, as outlined below.

#### *Awareness and the use of institutional repositories by lecturers*

The level of awareness might, to a great extent, determine the use of any system. In the words of Dinev and Hu (2005: 402): ‘awareness raises consciousness and knowledge about a certain technology, its personal and social benefits’. Velmurugan and Velmurugan (2014) submitted that awareness is a key determinant of consumers’ adoption behaviour. They ascertained that awareness was the central determinant of users’

attitudes and behaviour towards technology in their study in Florida.

Obviously, without awareness of the existence of an innovation, the issue of using such an innovation cannot arise. It is possible, for example, to be aware of the existence of an institutional repository but unaware of its concept. Ivwighreghweta (2012) investigated the challenges of the development of institutional repositories in six academic institutions in Nigeria and discovered that, despite the fact that 60% of the researchers and policymakers had complete awareness of the institutional repositories, only 7% had deposited their scholarly works in the institutional repositories.

The use of institutional repositories is based on awareness of the concept of institutional repositories – their purposes, benefits, impact and existence within an institution. Yang and Li (2015) revealed that the level of awareness of the OAKTrust digital repository at Texas A&M University was low. Out of 295 faculty members from 10 colleges/schools, only 27% were aware of the existence of OAKTrust, and only 7% had deposited work in OAKTrust. In the same vein, Chilimo (2016) found that out of 317 academic researchers in five public universities in Kenya, only 169 (53.3%) were aware of the existence of their university's institutional repository, while 31% were aware of its policy, resulting in the low use of institutional repositories.

Singeh et al. (2013), in their survey of the factors that inhibited authors from self-archiving in five Malaysian research-intensive universities, noted that awareness was indispensable to self-archiving. Yang and Li (2015) disclosed that the level of awareness of institutional repositories by lecturers was low, which resulted in low usage. Awareness of an institutional repository could be limited to just knowing about the basic concept or its existence, and awareness of its purposes and benefits, and the different policies regarding its use, might yet to be uncovered. Previous studies have established that there is a very wide gap and low awareness of institutional repositories at the policy level globally, especially in Africa, which has resulted in the low use of institutional repositories (Chilimo, 2016).

#### *Anchor factors and the use of institutional repositories by lecturers*

Venkatesh and Bala (2008) added anchor factors to TAM, which comprise four elements that are external factors and influence the perceived ease of use and, eventually, use of any system. These factors are computer self-efficacy, perception of external control,

computer anxiety and computer playfulness. It is believed that an individual's computer self-efficacy is a prerequisite for the use of any system or technology. Achim and Al Kassim (2015) affirmed that computer self-efficacy determined the use of computers by 50 employees at the Malaysia Civil Defence Force headquarters. However, Jeffrey (2015) established that computer self-efficacy did not significantly determine the use of a learning management system by 200 faculty members from 13 Adventist universities in the USA and Canada.

Perception of external control, as another anchor factor, might determine the use of institutional repositories by lecturers. Venkatesh (2000) explained that perception of external control is an individual's belief that organizational and technical resources are available to support the use of a system. The implication is that lecturers will use institutional repositories if there is institutional and technical resource support. According to Adetimirin's (2015) study, there is a positive relationship between perception of external control and use. Adetimirin's study found that perception of control positively influenced the use of an online discussion forum by library and information studies postgraduate students at the University of Ibadan, Nigeria.

Previous studies have averred that computer anxiety determines the use of any technological innovation/system (Adetimirin, 2015; Cowan et al., 2009). Computer anxiety is the apprehension/uneasiness felt by individuals when considering using a system. According to Cowan et al. (2009), computer anxiety influences use. They found that computer anxiety had a negative significant relationship with the use of a wiki (Psykowiki) by 92 second-year undergraduate psychology students at the University of Edinburgh. Wiki anxiety negatively affected their usage of the wiki. The students who had high wiki anxiety rated the wiki as less usable, while students with low wiki anxiety used the wiki more and rated it as usable. It is to be expected that anxiety will affect self-efficacy, and once self-efficacy is negatively affected, it reduces the usage of any technology/system. Similarly, Adetimirin (2015) found that computer anxiety had a significant negative relationship with the use of an online discussion forum by postgraduate students in library and information studies, implying that an increase in computer anxiety on the part of the postgraduate students would reduce their use of the online discussion forum. Hence, lecturers who are anxious about using computers are not likely to use institutional repositories, and computer anxiety might determine the use of institutional repositories by lecturers.

Computer playfulness is an anchor factor that might also have a direct relationship with use. Lin et al. (2005) confirmed that computer playfulness significantly contributed to use and the intention to reuse a website by 300 undergraduate students at a management school in Taiwan. However, Al-Gahtani's (2016) study discovered that computer playfulness did not significantly influence the use of an e-learning system by 286 students from three male (science, business and engineering) colleges, three female (science, arts and literature) colleges and a girls' study centre at a large Saudi Arabian university in the Southern Region.

### *Adjustment factors and the use of institutional repositories by lecturers*

Adjustment factors comprise two constructs: computer enjoyment and objective usability (Venkatesh and Morris, 2000). Previous studies have affirmed the relationship between the construct of computer enjoyment and the use of technology in general (Alenezi et al., 2010; Chin and Ahmad, 2015). However, there seems to be no study on the use of institutional repositories and adjustment factors. Alenezi et al.'s (2010) study established that computer enjoyment had a positive significant influence on 408 students' use of e-learning at five universities in Saudi Arabia. Similarly, Chin and Ahmad's (2015) study revealed that perceived enjoyment had a positive significant relationship with the intention to use single-platform e-payment by 389 Malaysian consumers. Contrary to the above studies, Wahab et al. (2011) found that enjoyment had a negative significant relationship with the electronic customer relationship management performance of 488 students from five universities in the northern, southern and central states of Jordan. This difference might have been the result of the different locations.

Venkatesh (2000) described objective usability as comparing systems based on the actual level of effort required to complete specific tasks. Usability as a construct can be evaluated through direct observation of users as they use technology, the objective use of logs or computer-recorded objective use. Otherwise, usability can be measured subjectively – that is, perceived usability or self-reported use, as in the case of this study (Al-Gahtani, 2016; Wahab et al., 2011; Zhang et al., 2013). Wahab et al. (2011) measured perceived usability and found a positive relationship between perceived usability and the electronic customer relationship management performance of 488 students at five universities in Jordan.

### **Methodology**

A descriptive correlational survey was used for this study. A purposive sampling technique was used to select universities that had had functional institutional repositories for at least four years at the time of data collection. It is believed that before a usability study can be conducted on any innovation, that innovation should have been used for at least four years. Only five universities met the criterion: Ahmadu Bello University, Zaria; Covenant University, Ota; the Federal University of Technology, Akure; the University of Jos; and the University of Nigeria, Nsukka. A random sampling technique was used to select 1151 lecturers (50% of the population) from five faculties that were common to the universities in the study, and the data was collected with a structured questionnaire (see Appendix 1). The items on anchor and adjustment factors in the questionnaire were adapted from TAM 3, and 857 copies of the questionnaire were returned and found usable.

The items were adapted from Venkatesh (2000) and Venkatesh and Bala (2008); where the original items of the questionnaire stated 'computer', 'system' and 'software', it was changed to 'institutional repository'. Each of the constructs has a reliability coefficient: computer self-efficacy:  $\alpha = .80$ , perceived external control:  $\alpha = .76$ , computer playfulness:  $\alpha = .77$ , and computer anxiety:  $\alpha = .73$ . The items measuring the 'adjustment factors' were adapted from Venkatesh (2000) and Venkatesh and Bala (2008); where the original items of the questionnaire stated 'computer', it was changed to 'institutional repository', and the reliability coefficient is  $\alpha = .84$ . The items measuring the use of institutional repositories were adapted from Venkatesh (2000) and Venkatesh and Bala (2008); where the original items of the questionnaire stated 'computer', it was changed to 'institutional repository', and the reliability coefficient is  $\alpha = .88$ .

The instrument was pretested with 30 lecturers from the Faculty of Pharmaceutical Science at the University of Nigeria who were not part of the main study; 24 copies of the questionnaire were retrieved, giving a response rate of 80%. The reliability coefficient was calculated using the Cronbach's  $\alpha$  coefficient to establish the psychometric properties. The values were as follows: awareness:  $\alpha = .83$ ; anchor factors: computer self-efficacy:  $\alpha = .89$ , perceived external control:  $\alpha = .86$ , computer playfulness:  $\alpha = .78$ , and computer anxiety:  $\alpha = .87$ ; and adjustment factors: perceived enjoyment:  $\alpha = .87$ , perceived usability:  $\alpha = .86$ , and use of institutional repositories:  $\alpha = .87$ .



Thereafter, the collection of data for the main study was carried out by the researcher and seven research assistants. The research ethics of each university studied were duly followed by the researcher. The researcher was given a list of lecturers in each department with their designation, and the sample was randomly selected. In addition, the consent of each lecturer was sought, and they voluntarily agreed to be respondents for the study. It was a 'paper-and-pencil' survey; the questionnaire was in English; and copies were distributed to the randomly selected lecturers by the researcher. Subsequently, the research assistants were sent to follow up and thereafter the completed questionnaires were collected.

The data was analysed at the .05 level of significance, being a behavioural science study. The variables are continuous and linear, and the data sets were normally distributed, hence Hypotheses 1 to 3 were tested using Pearson's product-moment correlation for relationships between each of the independent variables (awareness and anchor and adjustment factors) and the dependent variable (use of institutional repositories). In addition, multiple regression analysis was carried out on Hypotheses 4 and 5 to predict the relative as well as joint contributions among the inde-

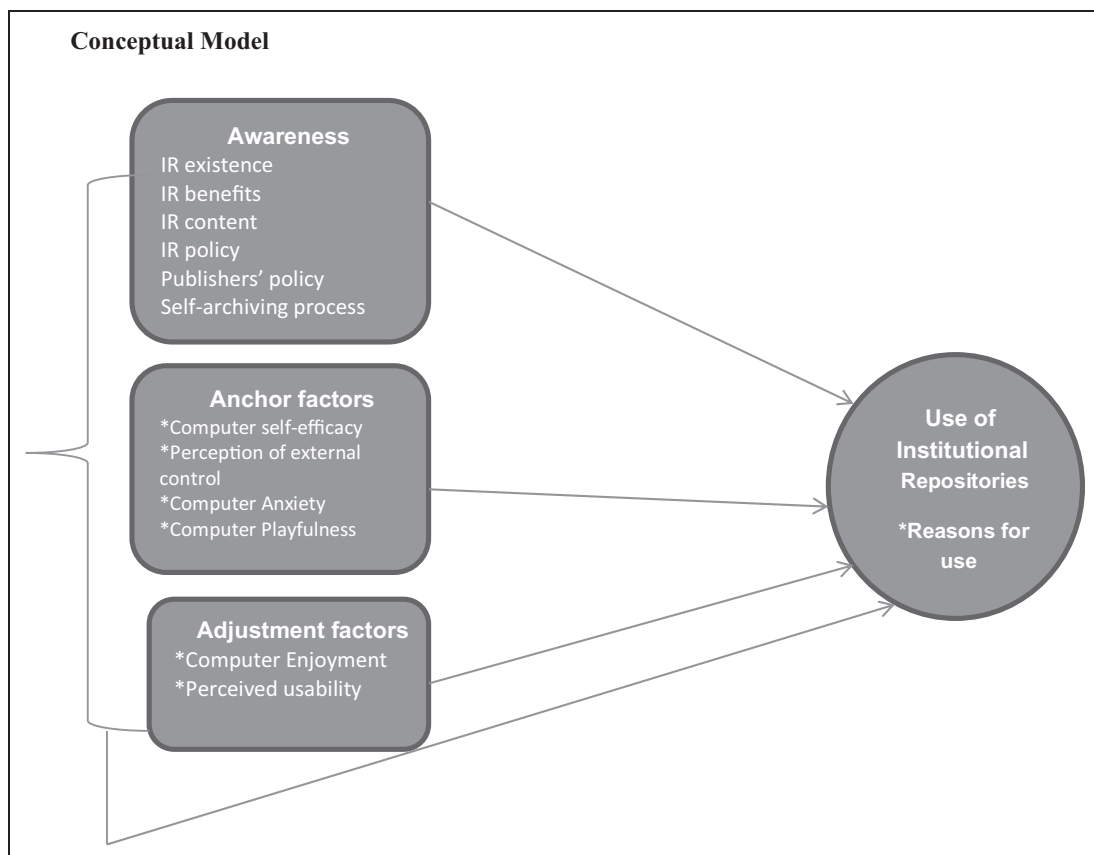
pendent and dependent variables because of the linear relationships of the variables and the multivariate normality of the data.

### Conceptual model

The conceptual model in Figure 1 shows the relationship between the independent variables (awareness, anchor and adjustment factors) and the dependent variable (use of institutional repositories) guided this study.

### Results

The results in Table 1 reveal that the highest number of respondents (190, 22.1%) were in the 35–39 age range; 646 (75.3%) were male; 560 (65.3%) were PhD holders; and the highest number of respondents (243, 28.3%) were found in the Lecturer I cadre. In addition, the highest number of respondents (271, 31.6%) had work experience of 6–10 years, and, lastly, the highest number (251, 29.1%) were in the Faculty of Science and the lowest (94, 10.9%) in the Faculty of Education. The distribution of the respondents, based on the results, indicates that a large number of the respondents were young, many of them were male and holders of a doctoral degree, and a large number were lecturers in



**Figure 1.** Conceptual model for the study.

between the lecturer grades I and II. Furthermore, many of them had work experience of between 6 and 10 years, and a large number of the respondents were working in the fields of science and environmental sciences.

**Table 1.** Demographic information of the respondents.

Demographic characteristics	Category	Frequency (N = 857)	%
Age range	25–29	47	5.4
	30–34	122	14.2
	35–39	190	22.1
	40–44	186	21.7
	45–49	168	19.6
	50–54	90	10.5
	55–59	45	5.2
	60–64	8	0.9
Gender	65+	1	0.1
	Male	646	75.3
Education	Female	211	24.6
	Master's	252	29.4
	PhD	560	65.3
Rank	Other	45	5.2
	Assistant	132	15.4
	Lecturer		
	Lecturer II	224	26.1
	Lecturer I	243	28.3
	Senior Lecturer	157	18.3
	Reader	66	7.7
Years of work experience	Professor	35	4.0
	1–5	226	26.6
	6–10	271	31.6
	11–15	213	24.6
	16–20	104	12.1
	21–25	42	4.9
Faculty	26+	1	0.1
	Arts	126	14.7
	Education	94	10.9
	Environmental Sciences	210	24.5
	Science	251	29.1
	Social Sciences	176	20.5

### Hypothesis testing

The results of Hypotheses 1 to 3 are presented in Table 2. The results of Hypotheses 4 and 5 are presented in Tables 3 and 4, respectively.

*Hypothesis 1. There is no statistically significant relationship between awareness and the use of institutional repositories by lecturers in Nigerian universities.* The data in Table 2 shows that there was a positive and low statistically significant relationship between awareness ( $r = .296^*$ ,  $N = 857$ ,  $p < .05$ ) and the use of institutional repositories by lecturers in Nigerian universities. This implies that to improve lecturers' use of institutional repositories, there must be an improvement in the level of awareness. Therefore, this null hypothesis is rejected.

*Hypothesis 2. There is no statistically significant relationship between anchor factors and the use of institutional repositories by lecturers in Nigerian universities.* Table 2 reveals that the correlation coefficient between the anchor factors and the use of institutional repositories was significant ( $r = .243^*$ ,  $N = 857$ ,  $p < .05$ ). This implies that there was a positive low statistically significant relationship between the anchor factors and the use of institutional repositories by lecturers in Nigerian universities. Therefore, this null hypothesis is rejected.

*Hypothesis 3. There is no statistically significant relationship between adjustment factors and the use of institutional repositories by lecturers in Nigerian universities.* The data in Table 2 shows that there was a positive moderate statistically significant relationship between the adjustment factors ( $r = .527^*$ ,  $N = 857$ ,  $p < .05$ ) and the use of institutional repositories by lecturers in Nigerian universities. Therefore, this null hypothesis is rejected.

**Table 2.** Correlation matrix showing the relationship among the independent variables and the dependent variable (use of institutional repositories).

Variable	Use of institutional repositories	Awareness	Anchor factors	Adjustment factors
Use of institutional repositories	1			
Awareness	.296* .000	1		
Anchor factors	.243* .000	.417* .000	1	
Adjustment factors	.527* .000	.435* .000	.580* .000	1
M	18.07	16.43	66.70	30.89
SD	12.806	3.775	11.270	8.166

$p = 0.05$ .

**Table 3.** Summary of multiple regression analysis of composite contributions of awareness and anchor and adjustment factors to the use of institutional repositories by lecturers in Nigerian universities.

R	$R^2$		Adjusted $R^2$		SE of estimate
.541	.292		.290		10.79207
Sources of variance	Sum of squares	df	Mean squares	F	Sig.
Regression	40,317.421	3	13,439.140	115.388	.000*
Residual	97,600.854	839	116.469		
Total	137,918.276	841			

**Table 4.** Summary of multiple regression showing the relative contribution of the independent variables to the use of institutional repositories by lecturers in Nigerian universities.

Model	Understandardized		Standardized coefficients		Rank	t	Sig.
	coefficients	$\beta$	SE	$\beta$			
(Constant)	-6.215		2.430			-2.558	.011
Awareness	.383		0.114	.110	2	3.356	.001*
Anchor factors	-.129		0.042	-.111	3	-3.071	.002
Adjustment factors	.860		0.058	.544	1	14.841	.000*

**Hypothesis 4.** There is no statistically composite contribution of awareness, anchor and adjustment factors to the use of institutional repositories by lecturers in Nigerian universities. The data in Table 3 shows that the composite contribution of awareness and anchor and adjustment factors to the prediction of the use of institutional repositories by lecturers was significant ( $F(3,839) = 115.388, p < .05$ ). This implies that awareness and anchor and adjustment factors jointly predicted the use of institutional repositories by lecturers in Nigerian universities. It further reveals a multiple regression coefficient of  $R = .541$  and the multiple regression adjusted  $R^2 = .292$ . The implication is that 29.2% of the variation in the lecturers' use of institutional repositories was accounted for by the joint effect of the independent factors when taken together; the remaining variation was due to other factors and residuals.

**Hypothesis 5.** There are no statistically relative contributions of awareness and anchor and adjustment factors to the use of institutional repositories by lecturers in Nigerian universities. Table 4 shows the relative contributions of awareness and anchor and adjustment factors to the use of institutional repositories by lecturers. The relative contributions of awareness ( $\beta = .110, t = 3.356, p < .05$ ), anchor factors ( $\beta = -.111, t = -3.071, p < .05$ ) and adjustment factors ( $\beta = .544, t = 14.841, p < .05$ ) to the use of institutional

repositories by lecturers were statistically significant. Therefore, this null hypothesis is rejected.

In addition, Table 4 reveals the relative contributions of the independent variables to the prediction of lecturers' use of institutional repositories at different levels and ranks, as expressed by the  $t$ -values. The prediction power is shown as adjustment factors ( $t = 14.841, p < .05$ ) > awareness ( $t = 3.356, p < .05$ ) > anchor factors ( $t = -3.071, p < .05$ ). Adjustment was the independent variable that strongly predicted the use of institutional repositories by lecturers; it was followed by awareness, while anchor factors were the lowest predictor of the use of institutional repositories by lecturers. The prediction equation is given as  $y = -6.215 + 0.860x_1 + 0.383x_2 - 0.129x_3$ , where  $y$  = use of institutional repositories,  $-6.215$  = constant,  $x_1$  = adjustment factors,  $x_2$  = awareness and  $x_3$  = anchor factors, \* = correlation is significant at 0.05 level only.

## Discussion

This study did not control for the possible interventions of confounding variables. Regarding the low prediction power of the regression model, it is possible that the results of this study would change if the confounding variables of gender, academic level (assistant, associate, professor), age (younger or older lecturers) and the academic disciplines of the lecturers were included in the analyses.

### *Awareness and the use of institutional repositories by lecturers in Nigerian universities*

The study showed that there was a positive significant relationship between awareness of institutional repositories and the use of institutional repositories. It is evident that as the lecturers' level of awareness of institutional repositories increased, their use of institutional repositories also increased. Thus, level of awareness determines the usage of a facility. This finding is in line with Singeh et al. (2013), who submitted that awareness was indispensable to self-archiving by lecturers in five Malaysian research-intensive universities. However, the finding of this study is contrary to Dolan (2011). Dolan (2011) found that 94% of lecturers at West Virginia University had a very high level of awareness of their institutional repository but only 1% actually used it. This implies that awareness of an innovation or product may or may not lead to the actual use of that product.

### *Anchor factors and the use of institutional repositories by lecturers in Nigerian universities*

The results showed that there was a positive significant relationship between the anchor factors (computer self-efficacy, perception of external control, computer anxiety and computer playfulness) and the use of institutional repositories by lecturers in universities in Nigeria. The implication of this finding is that lecturers with a high level of computer self-efficacy are more likely to use institutional repositories than lecturers with low computer self-efficacy. This finding is in line with previous studies. Achim and Al Kassim (2015) averred that there was a positive relationship between computer self-efficacy and the use of computers by 50 employees at the Malaysia Civil Defence Force headquarters. It is also in accordance with Adetimirin's (2015) study, which found a positive relationship between computer self-efficacy and the use of an online discussion forum by library and information studies postgraduate students.

Similarly, the findings revealed a positive relationship between perception of external control and the use of institutional repositories by lecturers in universities in Nigeria. This implies that when lecturers perceive that there is support for institutional repositories' staff and technical resources, they will use institutional repositories. This is in line with George and Ogunniyi's (2016) study, which revealed that perceived external control influenced the use of information and communications technology

resources by science teachers in 10 high schools in two circuits of the North-West Cape in South Africa.

The study also revealed that computer anxiety had a negative relationship with the use of institutional repositories by lecturers in Nigeria. This means that the higher the level of computer anxiety, the lower the use of institutional repositories. This agrees with Adetimirin's (2015) study, which revealed that postgraduate students with a high level of computer anxiety made low use of an online discussion forum.

Finally, this study found that computer playfulness had a positive relationship with the use of institutional repositories by lecturers in Nigerian universities. The implication is that, as computer playfulness increases, so does the use of institutional repositories. Therefore, lecturers with a high level of computer playfulness will use institutional repositories more than lecturers with a low level of computer playfulness. This finding is in agreement with the study by Lin et al. (2005), which confirmed that computer playfulness significantly contributed to the use of and intent to reuse a website by 300 undergraduate students at a management school in Taiwan. However, Al-Gahtani's (2016) study does not support this finding. He discovered that computer playfulness did not significantly influence the use of an e-learning system by 286 students from three male (science, business and engineering) colleges, three female (science, arts and literature) colleges and a girls' study centre at a large Saudi Arabian University in the Southern Region.

### *Adjustment factors and the use of institutional repositories by lecturers in Nigerian universities*

The study discovered that there was a positive moderate significant relationship between the adjustment factors (computer enjoyment and perceived usability) and the use of institutional repositories by lecturers in Nigerian universities. This finding corroborates previous studies. Alenezi et al. (2010) found that computer enjoyment influenced 408 students at five Saudi Arabian universities in their use of an e-learning platform. In addition, Chin and Ahmad's (2015) study revealed that computer enjoyment influenced the use of single-platform e-payment by 389 Malaysian consumers. Similarly, the finding is consistent with Wahab et al. (2011), who submitted that perceived usability influenced the use of electronic customer relationship management by 488 students at five Jordanian universities.

### *Awareness, anchor and adjustment factors in the use of institutional repositories by lecturers in Nigerian universities*

The findings of this study revealed that the composite contribution of awareness and anchor and adjustment factors to the prediction of the use of institutional repositories by lecturers was significant. The implication is that when awareness and anchor and adjustment factors were taken together, they jointly predicted the use of institutional repositories by lecturers. It thus implies that with a high level of awareness of institutional repositories, high computer self-efficacy, a good perception of external control, low computer anxiety, a high degree of computer playfulness, perceived enjoyment and perceived usability, there will be a high use of institutional repositories. In addition, the findings showed the relative contributions of the independent variables to the prediction of lecturers' use of institutional repositories at different levels and ranks, as expressed by the *t*-values. The adjustment factors are the independent variables that strongly predict the use of institutional repositories by lecturers, followed by awareness, while the anchor factors are the least *t*-predictors of the use of institutional repositories by lecturers.

### **Conclusion and recommendations**

Despite the benefits of university lecturers using institutional repositories, their low use by lecturers has become strikingly evident globally. This study investigated awareness and anchor (computer self-efficacy, perception of external control, computer playfulness and computer anxiety) and adjustment (perceived enjoyment and perceived usability) factors as determinants of the use of institutional repositories by lecturers in universities in Nigeria. The study found that awareness of institutional repositories, anchor factors and adjustment factors determined the use of institutional repositories by lecturers in Nigerian universities. It proved that if lecturers' awareness of institutional repositories is high, and their computer self-efficacy, perception of external control and computer playfulness are high, and they have low computer anxiety, their use of institutional repositories will be high.

Similarly, the study found that adjustment factors had a strong positive relationship with the use of institutional repositories; thus, if lecturers' perception of computer enjoyment and usability is high, their use of institutional repositories will be high. Therefore, the study concludes that awareness and anchor and

adjustment factors are determinants of the use of institutional repositories by lecturers in Nigerian universities.

In order to increase the use of institutional repositories by lecturers in Nigerian universities, the study recommends that more awareness programmes should be organized by university library management teams. Institutional repository documentation, such as brochures and posters, should be developed and made available to lecturers. This will educate lecturers on the functions and benefits of institutional repositories, which might motivate them to deposit their scholarly works. Lastly, lecturers should improve their computer self-efficacy by constantly using computers, which will reduce their computer anxiety and increase their computer playfulness.

The implication of this study is that university management teams, university libraries and lecturers should ensure that each of the variables is given attention in the use of institutional repositories in universities in Nigeria. In particular, university libraries should provide adequate awareness programmes to properly inform lecturers of the immense benefits of depositing their scholarly works in an institutional repository. The university management team should make the submission of scholarly works to institutional repositories mandatory for lecturers' promotion by awarding points during promotion for scholarly works that have been submitted in an institutional repository and by giving certificates of recognition to lecturers who submit their scholarly works to the institutional repository. This might encourage lecturers to submit their scholarly works, and the huge investment in institutional repositories will not be wasted.

From the foregoing, it is evident that there is no alternative for Nigerian lecturers but to adapt to this new paradigm, as the use of institutional repositories is a starting point for embracing open science in the digital era. However, for the future of open science in Nigeria, there is the need to create awareness, national policy, infrastructure and capacity-building to support and exploit the potential of open science as a nation.

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**Note**

1. See the Directory of Open Access Repositories' (OpenDOAR) website at: <http://www.andoar.org/>

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### Author biography

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## Appendix I. Questionnaire on Awareness, Anchor and Adjustment factors in the use of institutional repositories by Nigerian lecturers.

### Section A: Demographic Information

1. Name of your university: . . . . .
  2. Name of your faculty/school: . . . . .
  3. Name of your department: . . . . .
  4. Please indicate your age (years):
    - a. 25–29
    - b. 30–34
    - c. 35–39
    - d. 40–44
    - e. 45–49
    - f. 50–54
    - g. 55–59
    - h. 60–64
    - i. 65–69
    - j. 69+
  5. Gender: Male  Female
  6. Highest educational qualification:
    - (a) Master's degree
    - (b) PhD in view
    - (c) PhD
    - (d) Other (please specify) . . . . .
  7. Rank:
    - (a) Assistant Lecturer/Equivalent
    - (b) Lecturer II
    - (c) Lecturer I
    - (d) Senior Lecturer
    - (e) Reader
    - (f) Professor
    - (g) Other: . . . . .
- Work experience as a lecturer in the university:
- (a) 1–5
  - (b) 6–10
  - (c) 11–15
  - (d) 16–20
  - (e) 21–25
  - (f) 26+

### 8. Section B: Awareness of Use of Institutional Repositories (AWIUIR)

Please indicate your level of awareness about institutional repositories using the statements below and the scale where SA = Strongly agree, A = Agree, D = Disagree and SD = Strongly disagree

	Items I am aware of	SA	A	D	SD
AWA1	the existence of my university institutional repositories				
AWA2	the benefits of institutional repositories				
AWA3	the content of my university institutional repositories				
AWA4	my university institutional repository policy				
AWA5	the publishers' policy on open-access institutional repositories				
AWA6	the process of depositing my work into institutional repositories				

### 9. Section C: Anchor Factors in the Use of Institutional Repositories (ANFUIR)

Please indicate your level of agreement with the statements below using the scale where SA = Strongly agree, A = Agree, D = Disagree and SD = Strongly disagree

	Items	SA	A	D	SD
CSE1	I am able to use institutional repositories if there is no one around to show me how to use them				
CSE2	I feel comfortable using institutional repositories on my own				
CSE3	I can confidently download and save files from institutional repositories when needed				
CSE4	I can confidently deposit my scholarly works into our university institutional repository				
CSE5	I can confidently retrieve scholarly works from our university institutional repository				
CSE6	I could use institutional repositories if there was no one around to tell me what to do				
PEC1	I have control over using institutional repositories				
PEC2	I have the resources (e.g. Internet access) necessary to use the institutional repositories				
PEC3	Given the resources and opportunities it takes to use the institutional repositories, it would be easy for me to use the institutional repositories				
PEC4	I have the requisite knowledge to use the institutional repository				
PEC5	The institutional repository is compatible with other systems I use				
PEC6	Given support by the institutional repository manager, I can use institutional repositories				
CA1	I feel nervous about using institutional repositories				
CA2	I am sceptical that my work could be plagiarized if deposited in an institutional repository				
CA3	I hesitate to use institutional repositories for fear of making mistakes I cannot correct				
CA4	Institutional repositories worry me				
CA5	Using institutional repositories scares me				
CA6	Using institutional repositories makes me uncomfortable				
CPLAY1	I am playful when using institutional repositories				
CPLAY2	My using institutional repositories is spontaneous				
CPLAY3	I am creative in using institutional repositories				
CPLAY4	I am original in using institutional repositories				
CPLAY5	I am imaginative when using institutional repositories				
CPLAY6	I am inventive when using institutional repositories				



**10. Section D: Adjustment Factors in the Use of Institutional Repositories (ADFUIR)**

Please indicate your level of agreement with the statements below using the scale where SA = Strongly agree, A = Agree, D = Disagree and SD = Strongly disagree

Items	SA	A	D	SD
PEJ1 I find using institutional repositories enjoyable				
PEJ2 The actual process of using institutional repositories is pleasant				
PEJ3 I have fun using institutional repositories				
PEJ4 Depositing my scholarly work into our university institutional repository is exciting				
PEJ5 Retrieving scholarly works from institutional repositories is pleasurable				
PEJ6 The whole idea of using institutional repositories is delightful to me				
PU1 I use institutional repositories to search for scholarly works				
PU2 I retrieve scholarly works from institutional repositories				
PU3 I deposit my preprint scholarly works into my university institutional repository				
PU4 I deposit my lecture notes into my university institutional repository				
PU5 I deposit the data sets of my scholarly works into my university institutional repository				
PU6 I retrieve lecture notes from institutional repositories				

**11. Section E: Use of Institutional Repositories (UIR)**

Why do you use institutional repositories? Please indicate your level of agreement with the reasons for use of institutional repositories using the scale where SA = Strongly agree, A = Agree, D = Disagree and SD = Strongly disagree

Statement	SA	A	D	SD
SN I use institutional repositories because				
i my works are published alongside other high-quality research				
ii accessibility to my work is increased				
iii I can add extra data to the work, such as photos, video, audio or data sets				
iv the number of citations my work gets increases				
v my published material is easy to find				
vi access to the work is cheaper for others				
vii my work will be permanently archived and available				
viii the serials crisis is resolved				
ix depositing my work in the repository protects it from plagiarism				
x the prestige of my university is enhanced				
xi my chances of promotion are increased				
xii a centralized location to document research outputs is useful				
xiii I tell students to look up my works and works of other colleagues				
xiv it gives everyone within a research focus access to their colleagues' work to promote collaborative research				
xv the repository is well indexed and archived				
xvi the institutional repository is easy to use				
xvii my scholarly work is disseminated more quickly				
xviii access to scholarly works is easy				



# Privacy practices in academic libraries in Ghana: Insight into three top universities

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## Abstract

This research contributes to knowledge on privacy practices in academic libraries, by comparing survey data of librarians and their student-patrons in three top Ghanaian public universities. Our research revealed that Ghanaian academic libraries have not been proactive in promoting privacy issues. There is a general lack of awareness among librarians and their student-patrons about library practices, policies and procedures relating to privacy in their institutions. Besides, very little has been done in terms of providing privacy education and communicating the library's and vendors' privacy policies to staff and student-patrons. Among others, recommendations were made for library leaders and the library professional association in Ghana to develop toolkits that will facilitate privacy education and privacy advocacy.

## Keywords

Patron privacy, privacy policies, privacy practices, University of Cape Coast, University of Education, Winneba, University of Ghana

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## Introduction

Privacy and confidentiality of information on patrons are very important concerns to librarians. The ability to protect patrons' privacy in the library can influence the trust relationship between librarians and their patrons (Sutcliffe and Chelin, 2010). Librarians also see this function as a means of safeguarding the democratic values of unfettered access to information, freedom of thought and expression, and intellectual freedom. The current information landscape, however, makes it more challenging for librarians to carry out this professional commitment. For instance, implications of information and communication technologies (ICT) on patron

privacy and the confidentiality of records in online environments are far-reaching (Singley, 2020), and the commoditization of user information in this current data economy also raises new privacy challenges (Pekala, 2017). Information leakages have been reported especially in digital library environments where arbitrary data collection often occurs (Affonso and Sant'Ana, 2018). These leakages include search

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terms, user-agent software, geographical location, time of day, and many more which can compromise patrons' anonymity (O'Brien et al., 2018).

For librarians, this management and safeguarding responsibility is not just an ethical or professional duty but also a legal one in some cases (Ard, 2016; Pekala, 2017). Data protection laws like Ghana's Data Protection Act 2012 (Act 843) mandate data collecting agents like the library to protect the personal information of data subjects, in this case, library patrons. This paper seeks to understand how libraries in Ghana execute this responsibility by exploring privacy practices across three top academic libraries in Ghana.

The study was motivated by previous studies conducted by Zimmer (2014) in the United States (USA) and Tummon and McKinnon (2018) in Canada. Both studies assessed privacy attitudes and practices in North American libraries and provide valuable insights into what differences and similarities there are between the two neighbouring countries. Our search of the literature revealed that studies on privacy practices within African and Ghanaian libraries, in particular, are very scarce. Furthermore, both Dagbanja (2016) and Jeske et al. (2016) posit that privacy practices are susceptible to socio-cultural differences. For instance, Ghana, like most African countries, is a group-oriented society where the collective interest mostly takes pre-eminence over the individual interest, and this collective culture correlates with a generally low level of concern for privacy when compared to individualistic cultures (Dagbanja, 2016). Moreover, privacy and data protection laws and the field of librarianship in Ghana are generally different from that of countries in the global north. Researching into Ghanaian academic library privacy practices provides insights into privacy in Ghanaian libraries. This knowledge helps to contextualize and appraise the role of libraries in safeguarding patron privacy and promoting privacy literacy among their patrons, and could 'alert librarians to potential privacy gaps in patron services' (Lamdan, 2015: 265). These outcomes can provide guidance for future library policies and training programmes towards improving librarians' and patrons' privacy literacy and online choices, and protecting and promoting privacy rights of library users (Tummon and McKinnon, 2018; Zimmer, 2014). The study also provides a useful background for future studies on privacy in Ghanaian libraries as well as an empirical basis for international comparisons. In view of the afore-stated, the study is guided by the question: *What are the privacy protection practices in the three selected academic libraries in Ghana?*

## Literature review

The significance of privacy to the role and operation of libraries has been a subject of ongoing discussions. Recent interests like the attention given to the subject in the third issue of the 2018 volume of the *IFLA Journal* is an indication of how relevant and crucial privacy is in this era, even though scholars like Doyle (2018) are convinced it is a lost cause. Legislations like the PATRIOT Act in the USA (Hess et al., 2015), Security of Canada Information Sharing Act (Jeske et al., 2016) and similar laws in Europe which threaten to invade patron privacy and confidentiality, coupled with the digital space that most libraries now operate in (Reid, 2019), have driven libraries to renew their commitment to safeguarding the interest of their patrons. Libraries do this mainly by committing to industry standards and guidelines set out by professional library organizations.

Prescriptions of best practices and approaches to patron privacy protections are rife in the literature (Affonso and Sant'Ana, 2018; Inoue, 2018; Jeske et al., 2016; Kritikos and Zimmer, 2017; Lamanna, 2019; Tummon and McKinnon, 2018), often echoing those advocated by professional bodies like the International Federation of Library Associations and Institutions (IFLA) (IFLA, 2018) and the American Library Association (ALA) (O'Brien et al., 2018). These recommendations include educating library personnel and patrons and implementing privacy policies and procedures. However, institutional practices and efforts on patron privacy management are disparate. For instance, although being four years apart, two national surveys by Tummon and McKinnon (2018) in Canada and Zimmer (2014) in the USA respectively on privacy attitudes and practices among librarians, show a sharp contrast in some aspects. While most librarians in the USA said that their libraries had established practices or procedures for patron information requests and also communicated privacy policies to patrons, most Canadian librarians were either unaware of the existence of such practices or procedures or said it was non-existent in their libraries. In Japan, Inoue (2018) raised concerns about the lack of education on technology systems used in libraries and their concomitant privacy issues, and the lack of comprehensive user privacy policies and guidelines at the local level, in light of two main trends in public libraries: outsourcing the management of public libraries; and the use of part-time workforce. Illustrating with two public library cases, Inoue demonstrates that despite the existence of legislation to safeguard personal information, there are still gaps which libraries must strive to address. Some of these gaps include limitation in the scope of

what local legislation defines as personal information; the conflict between library industry standards on privacy and local government policies and priorities; conflicts between private business model and practices, and public library norms, traditions and mission; and the lack of understanding about third-party library systems (Inoue, 2018). These results show that the level of privacy and personal information protection can vary even among advanced countries (Jeske et al., 2016).

A potential educational gap is, however, palpable since many libraries are still lagging in terms of organizing educational sessions for both their staff and patrons. Ard (2016: 170) posits that ‘education is a cornerstone of library advocacy’; Krueger (2019) admonishes library managers and professional associations to commit to bridging the educational gap by organizing training on privacy-related trends. Lamanna (2019) indicates that education is vital for effective implementation of privacy policies and systems where they exist, and Singley (2020) states that education can help build a culture of patron privacy consciousness into the library’s operations. While some bold attempts are being made in providing privacy education (Maceli, 2018), more creativity is needed to sustain the effort and outcomes (Lamanna, 2019).

One of the channels for the library to deliver this needed privacy education is through privacy policies development (Tummon and McKinnon, 2018). The importance of developing explicit policies to guide the consistent enforcement of patron privacy and confidentiality has been noted (Dowling, 2017; Hess et al., 2015). These policies inform patrons about the privacy practices of their service provider, the options available to them and their responsibilities in protecting their privacy (Gao and Brink, 2019). Many libraries have developed privacy policies in the USA (Kritikos and Zimmer, 2017; Zimmer, 2014), yet, it has been shown that many libraries still lack clear privacy policies. Affonso and Sant’Ana (2018), in their investigation of privacy issues in data collection from the national digital libraries of nine South American countries, report that only two countries (Brazil and Colombia) had privacy policies for providing some guidance to users. Similar situations have been reported in Japan (Inoue, 2018) and Canada (Tummon and McKinnon, 2018). These studies emphasize the need for transparent privacy policies and guidance, especially within digital library environments, where it has been shown that potential privacy risks are imminent due to possible arbitrary data aggregations unbeknownst to and unapproved by users (Affonso and Sant’Ana, 2018; Liu et al., 2020; Robillard et al., 2019).

Related to library privacy policies are policies of digital content vendors. It is important that as libraries promote and protect patron privacy rights

through their policies and procedures, library vendors commit to same (Dowling, 2017). Tummon and McKinnon (2018: 92) asserted that ‘[i]n order for patrons to make informed decisions about using e-resources, they must understand vendor policies about [sic] such issues as what data are collected, where data are stored, and for what purpose data are being used’. To understand this issue better, a few empirical studies address library vendor policy contents. Magi (2010) conducted a content analysis of the privacy policies of 27 top library vendors; Lambert et al. (2015) also conducted a content analysis of the privacy policies of five prominent digital content providers of public libraries in the USA. These studies report a general trend where vendors’ policies largely fall short of library profession standards and do little in terms of giving meaningful control to users over their personal data.

Other related and more recent studies accentuate this observation. For example, in the context of mobile apps, Robillard et al. (2019) observed that many free IOS and Android apps tracking mental health variables lack privacy policies. The few that do fall short in transparency as most of them lacked statements clarifying issues about the sale of user information and informed consent. Furthermore, though few of the policies indicated measures to protect user data, most could not guarantee users’ data security and in most cases, the right to delete information associated with the app use was shrouded in caveats. In the context of cloud computing, Gao and Brink (2019) found that most of the privacy policies of cloud service providers did not contain information on the collection of usage details, and did not provide detailed discussions on the measures for data safety and integrity, and addressing user concerns. These findings have implications for libraries as they rely on Library 2.0 services from third-party vendors and may also have implications for the libraries’ general privacy policy (Kritikos and Zimmer, 2017).

These privacy policies mean little unless they are communicated and made accessible to staff and patrons. Interestingly, the literature reviewed shows that while vendors’ privacy policies are mostly visible, accessible and communicated (Kritikos and Zimmer, 2017; Lambert et al., 2015; Magi, 2010), the practice varies with libraries’ privacy policies (Tummon and McKinnon, 2018; Zimmer, 2014). It is worth pointing out here that the methodological differences in these studies may imply this revelation. Vendors’ privacy policies are often investigated using content analysis methods, while studies focusing on library privacy policies often adopt self-reported surveys. Still, libraries are not doing a good job in linking library

privacy policies to vendors' policies for seamless access (Kritikos and Zimmer, 2017). The readability and comprehensibility of these policies are also of interest even though there are concerns about the validity of the indexes used to determine the readability or comprehensibility of privacy policy texts (Gao and Brink, 2019; Lambert et al., 2015; Magi, 2010; Robillard et al., 2019).

The conclusion from the literature review is that privacy practices across libraries are divergent and inconsistent. Libraries need to adapt privacy practices to better align with today's online reality to remain relevant in protecting and promoting patron privacy (Singley, 2020). There is, however, a paucity of research on privacy practices in Africa. For instance, the 2018 special issue of the *IFLA Journal* which focused on privacy did not present any perspective from Africa, neither have we identified any such discussions elsewhere, since then. This study provides an African perspective to the discussion on library privacy practices and has the potential to yield new insights even for scholars and professionals in more advanced environments.

Another unique aspect of our work is that we conducted this survey from the perspective of both librarians and the student-patrons they serve, unlike previous studies that focused on librarians' perspectives only. Singley (2020) noted that approaching the privacy problem from the perspective of librarians mainly has proven ineffective and is partly why the library profession has been slow to adapt to the new online reality. Employing this approach allows us to determine whether librarians and their patrons are on the same page regarding patron privacy and data protection practices in their libraries since any misalignment could lead to some privacy challenges for both parties.

## Methodology

This study was exploratory, and to achieve our goal we surveyed 74 library staff (out of a total of 410 in all categories) and 726 students across three top public universities in Ghana: University of Ghana (UG), University of Cape Coast (UCC) and University of Education, Winneba (UEW), using the nonprobability convenience sampling method. Our survey instrument was adapted from the study by Zimmer (2014), which surveyed librarians' attitudes and practices on privacy in the USA. The instrument was slightly modified, and an open-ended question was added to elicit suggestions from respondents on how the library can improve patron privacy. The language of the instrument remained in the original English

**Table 1.** Job description of library staff.

	N	%
Administration	9	12.2
Public Services (Liaison/Subject Specialist/Reference/Instruction)	25	33.8
Collection and Technical Services (Acquisitions/Cataloguing/e-Resources/Systems)	26	35.1
Digital Initiatives (Digitization/Scholarly Communications/User Experience)	11	14.9
Archives/Special Collections	3	4.1
<b>Total</b>	<b>74</b>	<b>100.0</b>

in which it was developed as Ghana's official language is English and, therefore, there was no need to translate it to any Ghanaian vernacular. We pre-tested the instrument in two of the public universities with five librarians and 15 students and the feedback was incorporated into the final questionnaire. The questions focused on general practices in the library, the communication of privacy policies, privacy training and suggestions for improving patron privacy. The data was cleaned, coded and entered into SPSS 24 package for analysis. Descriptive statistics were run on the closed-ended data, while the open-ended responses were analysed using content analysis methods. We recognize that the relatively small sample (particularly of library staff) used in this work limits the extent of generalizability of the study results. We, however, assure that sampling from all categories of library staff and public universities across three distinct administrative cities in Ghana helps to minimize this challenge. This notwithstanding, the study's outcomes provide valuable insight into library privacy practices from a uniquely African cultural perspective, which can advance our understanding of the subject.

## Results

### Demographics

As shown in Table 1, the majority of library staff who responded to the survey worked in the Collection and Technical Services (35.1%) and Public Services (33.8%) sections of the library. This is followed by 14.9% of staff in Digital Initiatives. These job designations are likely to provide some form of services to users over online systems and electronic platforms. Senior staff (para-professional/support staff with a diploma or Bachelor's degree) and senior members (professional/senior administrative rank with at least an MLS degree) account for 69% of library staff who

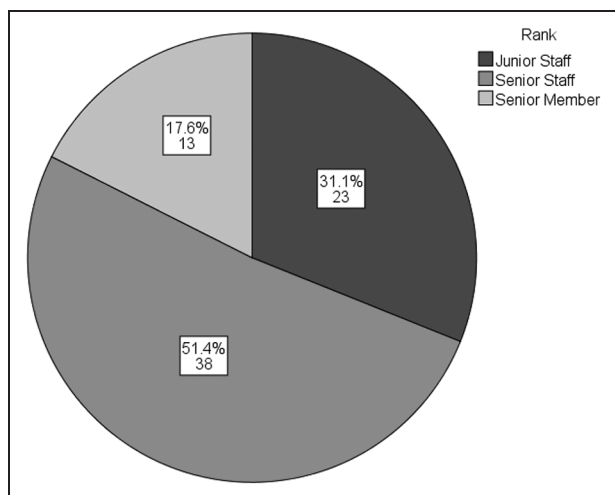


Figure 1. Rank of library staff.

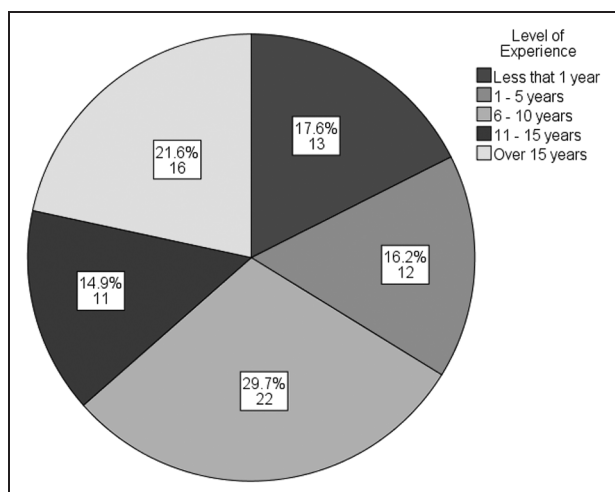


Figure 2. Level of experience of library staff.

responded to the survey (Figure 1). As many as 66.2% have over five years of professional experience (Figure 2) and more than 93% of them had at least a diploma (Table 2).

A plausible explanation for the disparity between the number of library staff with at least a diploma and the actual rank of respondents is that many of them may have been junior staff (support staff with an educational qualification lower than a diploma) who have gone on to pursue further studies to qualify for a diploma or a Bachelor's degree but are yet to be promoted or upgraded to the appropriate rank. This is quite a common phenomenon in many universities in Ghana. Meanwhile, almost all the students (99.3%) who responded to the survey were pursuing at least an undergraduate programme (Table 3).

The five students who indicated 'Other' as their educational status did not provide their specific level of education.

Table 2. Educational level of library staff.

	N	%
PhD	6	8.1
MPhil/Master's	23	31.1
Bachelor's Degree	31	41.9
HND/Diploma	9	12.2
WASSCE/SSSCE/BECE	3	4.1
Other	2	2.7
<b>Total</b>	<b>74</b>	<b>100.0</b>

Table 3. Educational level of students.

	N	%
Undergraduate (Diploma/Bachelors)	626	86.2
Graduate (MA/MSc/MPhil)	68	9.4
Postgraduate (PhD)	27	3.7
Other	5	0.7
<b>Total</b>	<b>726</b>	<b>100.0</b>

### Library privacy practices

Most of the respondents demonstrated a lack of awareness of the practices of the library when it comes to privacy issues (Table 4). For instance, 37.8% of librarians and 56.3% of students said they did not know about any established practices or procedures relating to requesting information from patron records. For the rest of the respondents who answered this question, 33.8% of library staff answered 'Yes' while 28.4% said 'No', with 35.8% of students saying, 'Yes' and 7.9% responding with 'No'. This suggests that 66.2% of library staff and 64.2% of students perceive that their libraries either do not have such established procedures, or they are not aware of the existence of such standard procedures at their institutions.

Whereas most library staff (39.2%) said the library trained staff on handling requests for patron records, most of the students (47.7%) said they 'don't know'. Still, a significant number of librarians (60.8%) perceive that either their libraries did not offer such training, or they were unaware of the existence of such training. Likewise, only 41% of students selected 'Yes' for this question.

On whether patrons had ever enquired from the library regarding the privacy of their personal records, or any other surveillance issue, most of the library staff (43.2%) said 'No', 33.8% said they 'Don't know' and 23% said 'Yes'. Comparatively, most of the students (66.9%) selected 'Don't know', 22.3% said 'Yes', and 10% said 'No'. When asked whether their libraries communicated privacy policies to patrons, most library staff (45.9%) said 'No', 35.1% said 'Yes' and 18.9% said

**Table 4.** Library privacy practices.

		Librarians		Students		Total	
		N	%	N	%	N	%
Does your library have any established practices or procedures for dealing with requests for information from patron records by law enforcement or other government officials?	Yes	25	33.8	260	35.8	285	35.6
	No	21	28.4	57	7.9	78	9.8
	Don't know	28	37.8	409	56.3	437	54.6
	<b>Total</b>	<b>74</b>	<b>100.0</b>	<b>726</b>	<b>100.0</b>	<b>800</b>	<b>100.0</b>
Does your library train staff on how to handle requests for information from patron records made by law enforcement or other government officials?	Yes	29	39.2	298	41.0	327	40.9
	No	23	31.1	82	11.3	105	13.1
	Don't know	22	29.7	346	47.7	368	46.0
	<b>Total</b>	<b>74</b>	<b>100.0</b>	<b>726</b>	<b>100.0</b>	<b>800</b>	<b>100.0</b>
Have patrons made inquiries to library staff regarding privacy of patron records, or any other surveillance issue?	Yes	17	23.0	162	22.3	179	22.4
	No	32	43.2	78	10.7	110	13.8
	Don't know	25	33.8	486	66.9	511	63.9
	<b>Total</b>	<b>74</b>	<b>100.0</b>	<b>726</b>	<b>100.0</b>	<b>800</b>	<b>100.0</b>
Does your library communicate privacy policies to patrons?	Yes	26	35.1	184	25.3	210	26.3
	No	34	45.9	107	14.7	141	17.6
	Don't Know	14	18.9	435	59.9	449	56.1
	<b>Total</b>	<b>74</b>	<b>100.0</b>	<b>726</b>	<b>100.0</b>	<b>800</b>	<b>100.0</b>
Does your library train students on the potential privacy rights risks issues resulting from using the Internet and other online library services?	Yes	30	40.5	313	43.1	343	42.9
	No	31	41.9	180	24.8	211	26.4
	Don't know	13	17.6	233	32.1	246	30.8
	<b>Total</b>	<b>74</b>	<b>100.0</b>	<b>726</b>	<b>100.0</b>	<b>800</b>	<b>100.0</b>
In the past 5 years, has your library/organization hosted or organized public information sessions, lectures, seminars, or other events related to privacy and surveillance?	Yes	21	28.4	194	26.7	215	26.9
	No	35	47.3	148	20.4	183	22.9
	Don't know	18	24.3	384	52.9	402	50.3
	<b>Total</b>	<b>74</b>	<b>100.0</b>	<b>726</b>	<b>100.0</b>	<b>800</b>	<b>100.0</b>
At your library, are some or all of the vendors' e-resource privacy policies communicated to patrons?	Yes	18	24.3	146	20.1	164	20.5
	No	33	44.6	115	15.8	148	18.5
	Don't know	23	31.1	465	64.1	488	61.0
	<b>Total</b>	<b>74</b>	<b>100.0</b>	<b>726</b>	<b>100.0</b>	<b>800</b>	<b>100.0</b>

they 'Don't know'. On the other hand, most of the students (59.9%) selected 'Don't Know', 25.3% said 'Yes' and 14.7% said 'No'. Respondents who answered 'Yes' to this question were asked to further indicate how policies relating to 'general patron data', 'circulation and borrowing data', and 'computer and Internet usage' are communicated to patrons. For policies on patron data, most of the library staff (28%) said it was communicated through the library website, but most of the students (26.8%) claimed it was communicated through the notice boards.

Most of the library staff (48%) said that a written policy on circulation and borrowing data was issued to students during registration. However, most of the students (25.8%) reported that such a policy was not communicated to them. A majority of both the library staff and students conceded that policies on computer and Internet usage were communicated to students through the library website and on notice boards (Table 5). When asked whether e-resources privacy policies were communicated

to patrons, most of the library staff (44.6%) said 'No', 31.1% said they were unaware and 24.3% said 'Yes', they did.

On the other hand, most of the students (64.1%) said they were unaware, 20.1% indicated that such vendor policies were communicated to patrons, and 15.8% said 'No' in responding to the same question (Table 4). When asked if their libraries trained students on privacy issues resulting from using the Internet and other online library services, the librarians were fairly divided on the question; 41.9% said 'No', 40.5% said 'Yes' and the remaining 17.6% selected 'Don't know'. Comparatively, most of the students (43.1%) said 'Yes', followed by 32.1% who selected 'Don't know' and 24.8% who said 'No'.

According to most of the library staff (47.3%), their libraries had not hosted or organized any public information sessions, lectures, seminars, or other events related to privacy and surveillance in the past five years. This is followed by 28.4% who said their libraries had held such sessions and the remaining

**Table 5.** Communication of privacy policies on specific library activities.

		Librarians		Students		Total	
		N	%	N	%	N	%
General patron data	Written policy with card issuance	2	8.0	40	22.3	42	20.6
	On the library website	7	28.0	22	12.3	29	14.2
	On notices/signs	6	24.0	48	26.8	54	26.5
	Through emails	4	16.0	29	16.2	33	16.2
	Other	1	4.0	18	10.1	19	9.3
	Don't know	6	24.0	34	19.0	40	19.6
	None	6	24.0	41	22.9	47	23.0
	<b>Total</b>	<b>25</b>		<b>179</b>		<b>204</b>	
Circulation and borrowing data	Written policy with card issuance	12	48.0	34	19.1	46	22.7
	On the library website	7	28.0	22	12.4	29	14.3
	On notices/signs	10	40.0	23	12.9	33	16.3
	Through emails	4	16.0	24	13.5	28	13.8
	Other	2	8.0	18	10.1	20	9.9
	Don't know	3	12.0	44	24.7	47	23.2
	None	4	16.0	46	25.8	50	24.6
	<b>Total</b>	<b>25</b>		<b>178</b>		<b>203</b>	
Computer and Internet use	Written policy with card issuance	3	12.0	37	20.7	40	19.6
	On the library website	11	44.0	65	36.3	76	37.3
	On notices/signs	11	44.0	63	35.2	74	36.3
	Through emails	9	36.0	57	31.8	66	32.4
	Other	3	12.0	16	8.9	19	9.3
	Don't know	3	12.0	21	11.7	24	11.8
	None	0	0.0	18	10.1	18	8.8
	<b>Total</b>	<b>25</b>		<b>179</b>		<b>204</b>	

24.3% were unaware of such events. For the students, 52.9% selected 'Don't know', 26.7% selected 'Yes', and 20.4% selected 'No' for this question.

#### *Suggestions for protecting patron privacy in online library environments*

Respondents were asked to suggest ways in which the library could help protect the privacy of patrons in online library environments. In all, 46 library staff and 442 students responded to this open-ended question. The content analysis revealed several thematic areas that characterize the responses. Sixteen content categories emerged from the responses with eight being common to both librarians and students (Table 6).

**Education.** The calls on the library to educate or train both librarians and students on privacy issues in the online library environment were a prominent suggestion from both categories of respondents. Some of the approaches proposed for the training include workshops, seminars, lectures and orientations. This underscores the importance of the instructional services libraries offer in empowering their users for effective and safe use of the library resources in online

environments. Some of the library staff (L) and students (S) suggested:

By educating the user community on privacy issues and building the capacity of staff to handle privacy issues. (L)

Educating the students about privacy issues and also organizing sensitization workshops and seminars for them on how to protect their privacy in the online library environment. (S)

**Passwords.** The use of passwords, security codes, personal identification numbers and similar mechanisms to protect users' privacy also ranked very high among both categories of respondents. Users, however, had the responsibility of keeping their passwords safe and secured:

Library users can be protected by the use of passwords and other identification and authentication codes. (L)

By enabling individuals to create personal accounts where they can log in and out anytime they access online library materials.(S)

**Policy and regulations.** While the enactment, communication and enforcement of privacy policies and



**Table 6.** Summary of suggestions for improving patron privacy in academic libraries.

Themes	Librarians		Students	
	N	%	N	%
Education	17	31.5	111	23.6
Password	10	18.5	96	20.4
Policy	9	16.7	27	5.7
Data security	9	16.7	136	28.9
Awareness creation	4	7.4	23	4.9
Competent staff	3	5.6	6	1.3
Sanction	1	1.9	13	2.8
Limit data collection	1	1.9	3	0.6
User consent			25	5.3
Report breaches			12	2.6
Surveillance			8	1.7
Personal space			4	0.9
Purposeful data collection			2	0.4
No need for privacy			2	0.4
Prioritize user privacy			1	0.2
Library doing well already			1	0.2
<b>Total</b>	<b>54</b>		<b>470</b>	

regulations were still among the top suggestions of both categories of respondents. comparatively, far fewer students recommended this. It is also important that these policies and regulations are made easily available and understandable to users. Some of the suggestions were:

A clear and unambiguous promulgation of privacy policies and their communication to users could help alert library patrons to their responsibilities of protecting their own privacy. (L)

There should be strict and concrete policies to ensure privacy is highly protected. (S)

**Data security.** The need for the library to adopt the best security measures that would secure the personal data of users was also among the top recommendations from both categories of respondents. Elements of data security include investing in infrastructure that secures patrons' data, restricting access to data and anonymizing data if there was a genuine reason to share, and providing safe access to the Internet. Below are some of the suggestions of respondents:

Library user data must be seen by authorized personnel only. All user data kept by the library must be stored in a way that does not allow unauthorized copying. User data must be encrypted. Don't allow hackers and spammers to intercept data transmission. (L)

By ensuring that resources are invested in making and strengthening existing infrastructure that is designed to

ensure privacy. PCs should be protected from software that harvest people's information and the library should avoid using monitoring software. (S)

They should make sure that our search engines and social media are being protected from hackers. There should be constant clearing of students searches and history online. (S)

**Awareness creation.** Respondents also expect the library to create awareness about privacy issues. For instance, using the library website to promote library privacy policies was seen as a useful method for awareness creation; or providing safety tips for using online services using leaflets or fliers to sensitize library users about their privacy rights or even policies of database vendors.

A lot of awareness needs to be created so as to expose staff who are not familiar with the dangers of privacy intrusions. (L)

Post privacy issues on the library webpage. (L)

The library could make users aware of all the privacy policies that are attached to using certain online websites especially the implications of the said policies whether beneficial or harmful in nature. (S)

Sensitize students about privacy issues in online library environments. creating awareness of individual rights to privacy with regards to personal information. (S)

**Competent staff.** A few respondents also suggested recruiting competent staff that understand privacy issues and can assist users to navigate the privacy challenges while working in online library environments. Some of these suggestions are as follows:

There should be personnel who are competent professionals, who abide by the ethics of the information society and capable of assisting students on matters of privacy. (L)

This can basically be done by employment of personnel who are competent enough and are of high moral standing in society who will be unwilling to share or leak such information to any other person. (S)

**Sanctions.** Some respondents also called for sanctioning people who are found to be infringing on people's privacy rights.

Anyone who abuses information must be punished according to the law. (L)

Enforcing laws governing privacy of library users in the online library and giving the necessary punishment due when users privacy is infringed on by others. (S)

**Limit data collection.** Some of the respondents in both categories showed concern about libraries collecting too much information about users in online library environments. They proposed the following:

Limit sign-up details patrons are supposed to provide in their registration into specific library services. (L)

By asking for basic information and keeping it private. (S)

Reduce the quantity of data required from the individual for services rendered. (S)

Beyond these eight common themes, other themes emerged in only students' responses. These are presented below.

**User consent.** Users want more power and control over their privacy. They expect decisions about their personal data in the custody of the library to be made with their consent.

Libraries should not share personal information about users to everyone unless authorized by the individual. (S)

Before anyone can be granted access to the personal information of the users, permission should be sought from the user. (S)

**Report breaches.** Users also expect to be notified when their privacy within online library environments was compromised. They suggested the following:

Inform us anytime the library finds that our privacy has been breached by someone. (S)

The library could help by providing the library users or prompting them immediately on cases relating [to] security of their library account etc. (S)

**Surveillance.** Some of the students called on library staff to be vigilant, to monitor or track suspicious activities in online library environments:

Ensure students' surveillance at various libraries. (S)

It is their responsibility to track peoples [sic] using our website to defraud others. (S)

**Personal space.** Some students also want to work in spaces that are free from intrusions of any kind:

I suggest that computers used in online library environment are arranged in a way that nobody would see what others do. (S)

Secured personal privacy in the library room with no interference. (S)

**Purposeful data collection.** Some students want the library to disclose what data is being collected about them and what it is going to be used for. Also, the data must only be used for the purpose for which it was granted.

Information collected about me should only be used for the purpose of which it has been collected. (S)

There should be full disclosure of whatever information they are requesting and what it is going to be used for. (S)

**No need for privacy.** Some have no concerns about privacy in online library environments. They made the following statements:

One must not be too particular about privacy because there is the need for information flow for the advancement of technology. (S)

Privacy issues in the library should not all at times be in secret. The library is a place of research. So, information in the library should not be hidden. (S)

**Prioritize user privacy.** One person said the library must demonstrate a genuine interest in patrons' privacy by treating it as a priority:

by making our privacy protection their priority. (S)

**Library doing well already.** Another person expressed confidence in the library's efforts in protecting users' privacy interests:

Honesty, not too sure but I haven't heard of any major incident, so it seems you're doing a pretty good job so far. (S)

## Discussion

The survey sought to investigate privacy practices in the three institutions polled to understand how Ghanaian academic libraries were currently addressing the issue of patron privacy. It is argued that privacy practices and systems within libraries have implications for patrons' concerns, perceptions and actions (Gao and Brink, 2019). Tummon and McKinnon (2018) further note that awareness about institutional practices and procedures is essential for librarians to successfully

protect patrons' privacy and support them in making informed online decisions. They posed the question, '[a]re librarians doing enough to communicate privacy practices and policies to students, and to build awareness about how online personal information is being used or potentially misused?' (p. 87).

Our investigation reveals that most of the respondents were not aware of privacy practices within their institutions. Just a few claimed to be aware of specific practices in their libraries. For instance, only 33.8% of librarians and 35.8% of students said their libraries had established practices or procedures relating to requesting information from patron records. This general lack of awareness about institutional practices and procedures by the library staff in our study is consistent with the experience of Canadian academic librarians (Tummon and McKinnon, 2018) but contradicts the experience of librarians in the USA (Zimmer, 2014). Plausible explanations for this lack of awareness by librarians and students in the present study include the non-existence of such practices and procedures, or if they exist, perhaps not enough is being done to promote and create awareness about such practices and procedures. For library staff, their own lack of awareness about institutional practices, policies and procedures is a serious hindrance to their ability to effectively support their patrons' privacy needs (Tummon and McKinnon, 2018). The low level of awareness among students may have also contributed to the discouragingly fewer number of them who had made inquiries to library staff regarding privacy and surveillance issues; although it is also plausible that students trust their libraries to protect their privacy interests, hence the seeming lack of interest in privacy issues by the students (Hess et al., 2015; Sutcliffe and Chelin, 2010).

While the majority of Canadian librarians (42.3%) were unaware if privacy policies were communicated to patrons (Tummon and McKinnon, 2018), a majority of the librarians (45.9%) in our study admitted that privacy policies were not communicated to patrons. Though 35.1% of librarians claimed they did so, only 14.7% of our student respondents corroborated this claim. Those who said that their libraries communicated policies also provided further details about the approaches used to communicate policies relating to 'general patron data', 'circulation and borrowing data', and 'computer and Internet usage' in their libraries. These include a written policy issued during registration, library website, notice boards/signs, email or other methods. This, notwithstanding, a significant number of these respondents (48% of librarians and 41.9% of students) indicated that their libraries either did not communicate policy on general patron

data or they were not aware if they did. Similarly, 28% of librarians and 50.5% of students expressed the same sentiment concerning policy on circulation and borrowing data. Fewer respondents felt this way about policies on computer and Internet use data (Table 5). These revelations from the data do not provide a strong premise to conclude that these institutions actually communicate privacy policies to their users. At least, in one of the institutions surveyed, it has been reported in a previous study that policies addressing privacy are scattered and disjointed with no unified privacy policies for the library services (Owusu-Ansah et al., 2018). This presents a challenge in communicating or creating awareness about privacy policies. When combined with responses regarding electronic resources vendors communicating their privacy policies to patrons, what is very evident is that most of the respondents within the two categories lacked knowledge about policies relating to privacy in their institutions. It is not surprising then that many of the respondents from both categories called for development, communication and enforcement of policies regarding privacy in their libraries.

Less than half of the respondents said their libraries offered training to staff on how to handle requests for patron records, and to students on privacy issues resulting from using the Internet and other online library services. Also, most of them said their libraries had not hosted or organized any public information sessions, lectures, seminars or other events related to privacy and surveillance in the past five years. These findings are consistent with the situation in Canada (Tummon and McKinnon, 2018) and the USA (Zimmer, 2014) and indicate that there is the need to train both library staff and patrons on privacy issues. This revelation is accentuated by the calls for education on privacy issues in online library environments which ranked very high among the suggestions proffered by both librarians and students. The IFLA Statement on Privacy in the Library Environment recommends that libraries should embed data protection and privacy issues into their media and information literacy services for patrons; and also, that education for librarians should include data and privacy protection principles and practices in online settings (IFLA, 2015). Privacy education sessions can be used to communicate and create awareness about national data protection legislation (Dagbanja, 2016), institutional policies, regulations and practices and vendor policies (Tummon and McKinnon, 2018). Ghanaian academic librarians must also see this educational role as a powerful advocacy tool for promoting privacy issues within their institutions (Ard, 2016).

The content analysis of the open-ended question shows that respondents, especially students, recognized the library's role in securing their privacy. They

acknowledged that libraries have a responsibility to protect their privacy interests and trust librarians to uphold that interest. The majority of the students demonstrated their concern for privacy, recommending that the library needs to adopt best practices to secure their personal data. These measures include, but are not limited to, anonymizing data, restricting access to data, clearing search and browsing history, using encryption systems, blocking monitoring applications and investing in infrastructure that generally provides safe access to the Internet. These propositions together with the themes that emerged from our content analysis do not deviate from the recommendations in the literature (IFLA, 2018; Jeske et al., 2016; Lamdan, 2015) and should drive librarians to take tangible steps to secure personal information and promote the privacy of their patrons.

Furthermore, the fact that students made unique recommendations in their desire to have their data protected by librarians points to the fact that students have enhanced expectation of libraries to protect their data while using online library services. Though some of these recommendations may seem counterintuitive or even unrealistic, for instance, the call for librarians to be gatekeepers of online activities could represent a breach of students' privacy and right to search without being observed, it is possible that students see librarians as trustworthy gatekeepers, or they just have a relaxed attitude towards privacy (Sutcliffe and Chelin, 2010). This may be why some of them showed no concern for privacy. These revelations align with the position of Doyle (2018) who argues that concerns for privacy will continue to dwindle over time, especially, as libraries' adoption of digital resources from third-party vendors to deliver personalized service experience already defeats patron privacy. Singley (2020) further opines that surveillance is becoming a common practice in libraries with the adoption of learning analytics to demonstrate value and that the solution is not to avoid surveillance but to ensure that users are aware of when and how they are being monitored.

Reconciling these calls with other recommendations that reject any form of surveillance, express concern for privacy or the desire to exercise control over personal privacy may sound contradictory. Yet, it shows that different people may have different attitude or concerns toward privacy (Zimmer, 2014). The desire for power and control over personal privacy, however, may be challenging in reality, because patrons have limited control on licence negotiations and other service agreements that the library enters into (IFLA, 2019). Their willingness to use such services or resources is deemed as their personal consent to the agreed terms. The onus thus lies on librarians to

be proactive in understanding the concerns of their patrons to factor that into their data collection and subscription decisions (O'Brien et al., 2018). Perhaps, this is where promoting institutional and vendor privacy policies through education and accessibility to patrons is worthwhile.

The answer to Tummon and McKinnon's question, '[a]re librarians doing enough to communicate privacy practices and policies to students, and to build awareness about how online personal information is being used or potentially misused?', in the case of academic libraries in Ghana is, therefore, 'No'. This may be symptomatic of the low concerns for privacy issues associated with group-oriented cultures (Dagbanja, 2016).

### Conclusion and the way forward

This survey helps to understand how academic libraries are responding to privacy concerns in Ghana. This was achieved by comparing survey data from library staff on their perceptions about privacy practices and procedures with that of students in their universities. This approach is beneficial in two ways: first, library staff self-reported perceptions about their institutional practices can be verified and corroborated, and second, the authors can determine any gap in students' and librarians' perceptions regarding library privacy practices and procedures. The results of the study suggest that the situation in Ghana is similar to the case in some developed regions. Ghanaian academic librarians have not been proactive in promoting privacy issues in their libraries. There is a general lack of awareness among librarians and their students about library practices, policies and procedures relating to privacy in their institutions. And very little has been done in terms of providing privacy education and communicating the libraries' and vendors' privacy policies to staff and patrons.

Based on these findings, Ghanaian librarians need to do more in educating, communicating and creating awareness about privacy issues in their institutions. They first need to increase their own knowledge about privacy practices in their institutions, raise awareness about privacy practices and procedures in their libraries and engage their patrons to understand their concerns and address any challenges they might have. This can be done by embedding online privacy and data protection issues in their information literacy sessions. Library leaders and the professional library association in Ghana must consider developing toolkits that will facilitate these. Valuable lessons can be gleaned from recommended best practices in the literature in developing these toolkits. Additionally,

librarians should implement measures that ensure the security of patrons' data in the custody of the library.

A limitation of our work is that these practices are self-reported by the respondents through the questionnaire alone. They have not been personally observed and can at best be considered to represent the perceptions of the respondents about these practices in their institutions. A logical next line of action would be to conduct focused privacy practices audits in these libraries using other approaches like onsite observation and document/content analysis of library policies to derive a more realistic picture, even more so because the literature review reveals a gap in library privacy policy content analysis. Also, the themes that emerged from the respondents' suggestions reveal diverse expectations of librarians with regards to how to improve privacy protection in these libraries. More research is needed to validate these views and the other results from the study.

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# Effects of service quality on satisfaction in Eastern University Library, Bangladesh

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## Abstract

This study evaluated the effects of SERVQUAL dimensions on user satisfaction at Eastern University Library, Bangladesh. A modified SERVQUAL instrument was adapted to the local arrangements and included 30 statements under five dimensions with a seven-point Likert scale for evaluating the effects of library service quality on user satisfaction. A survey was conducted among 51 teachers and 163 undergraduate and 38 postgraduate students. The effects of five SERVQUAL dimensions were computed through multiple regression analysis, where the five dimensions were used as independent variables and user satisfaction was used as the dependent variable. The regression model was established as significant ( $p < 0.001$ ) and explained the 56.9% variation in user satisfaction. The results recommended that tangible facilities ( $p < 0.001$ ), staff responsiveness ( $p < 0.001$ ) and the resources ( $p < 0.004$ ) of the library significantly influenced user satisfaction. Several statistical methods supported the reliability and validity of the model, which will prompt further research on service quality and its impact on user satisfaction in academic libraries.

## Keywords

Effects, service quality, user satisfaction, SERVQUAL, academic library, Bangladesh

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## Introduction

Academic libraries are service-oriented institutions which are established for the provision of appropriate resources and quality services to meet the academic needs of their user community. The effectiveness of a university library generally refers to the library's collections, staff performance, services and facilities (Mezbah-ul-Islam, 2003). Currently, university libraries are becoming more user-focused due to information availability, rising costs, competitive pressures and increasing awareness of their users (Andaleeb and Simmonds, 1998). Globally, academic libraries are moving from manual to automated systems due to the effect of information and communications technologies (ICTs) and the changing needs of their users (Partap, 2019). Most of the university libraries in Bangladesh are trying to enhance their tools and techniques to assist research, teaching and learning, as well as adjust the methods of sharing and providing information for their users through technology-driven services (Alam, 2017a; Alam and

Mezbah-ul-Islam, 2019; Islam and Habiba, 2015). To develop and maintain state-of-the-art library services, it is essential to assess the quality of the existing services, as well as evaluate what importance is given by users to the dimensions of service quality in the changing information environment. Many researchers have agreed that assessing service quality based on user responses is the easiest and most useful approach to determine the success of academic libraries (Alam, 2018).

Quality is a degree of excellence in the resources and services provided to users where users can get the maximum satisfaction and feel delighted (Partap, 2019). Service quality is an attitude formed over the long term regarding the overall evaluation of the

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performance of a firm (Hoffman and Bateson, 2011). Library service quality is defined for this study as the difference between user expectations and perceptions of the service performance of the library (Sahu, 2007). User satisfaction can be defined as the level of quality service performance that achieves the user's expectations (Afthanorhan et al., 2019; Hoffman and Bateson, 2011). The effect is defined as the significant influence or impact of service quality on user satisfaction in the library (Poll, 2003). Researchers (Choshaly and Mirabolghasemi, 2019; Sumaedi et al., 2011; Wang and Shieh, 2006) have discussed the relationship between service quality and user satisfaction from different perspectives and agree that service quality has a positive effect on user satisfaction.

Over the years, diverse research has focused on developing tools and techniques for the assessment of service quality (Roy and Bouchard, 1999). Developed by Parasuraman et al. in 1985, SERVQUAL was initially an approach for assessing the service quality of various business sectors. It has since been radically shifted to the quality assessment of all service sectors, including libraries. Now, SERVQUAL is the most useful service quality assessment tool, and it is used to measure service quality in various library settings, including public, academic and specialist libraries globally (Alam, 2017b; Hossain and Islam, 2012). Similar tools like LibQUAL+, LibQUAL+ Lite and SERVPERF were considered for the assessment of library service quality, but they emphasize making e-resources accessible from home or on campus, which is not suitable from the perspective of academic libraries in Bangladesh (Ahmed and Shoeb, 2009; Mezbah-ul-Islam, 2003). There are 105 private, 46 public and three international universities in Bangladesh (University Grants Commission, 2020). Established in 2003, Eastern University is one of the fastest growing private universities in Bangladesh. Currently, the number of teachers is about 115 and 3782 students are pursuing their studies in undergraduate and postgraduate programmes within four faculties. Eastern University Library was established in 2003 along with the university and it can seat 164 readers. The library has been automated and digitized using Drupal, KOHA and DSpace software. The library has about 18,450 books, 1682 journals, 568 theses and internship reports, 892 audiovisual materials and 542 institutional publications. Access and download facilities for about 36,500 online journals and 16,000 e-books are available. The library provides remote access to its subscription online journals and e-books through MyAthens. Its opening hours are from 9 a.m. to 9 p.m. throughout the week (Eastern University, 2020). The main aim of this study is to

evaluate the effects of service quality on user satisfaction at Eastern University Library.

## Literature review

Assessing service quality is necessary for the progress of university libraries; it helps to retain existing users and attract new ones in the current competitive service environment (Moreira et al., 2009). Library professionals should be aware of users' expectations in the provision of quality services (Shoeb, 2011). User opinions are considered as a reliable factor in evaluating library service quality. SERVQUAL is the most useful service quality assessment tool, and it is being used in various library settings, especially university libraries, globally (Hossain and Islam, 2012). Initially, Parasuraman et al. (1985: 48) outlined 10 dimensions of service quality in SERVQUAL: 'access, communication, competence, courtesy, credibility, reliability, responsiveness, security, tangibles, and understanding/knowing the customer'. They then merged these 10 components into five dimensions (the first three are original components and the last two are combined) capturing all of the facets of the 10 initially conceptualized dimensions. These five dimensions are:

1. Tangibles – 'Physical facilities, equipment, and appearance of personnel';
2. Reliability – 'Ability to perform the promised service dependably and accurately';
3. Responsiveness – 'Willingness to help customers and provide prompt service';
4. Assurance – 'Knowledge and courtesy of employees and their ability to inspire trust and confidence';
5. Empathy – 'Caring, individualized attention the firm provides its customers' (Parasuraman et al., 1988: 23).

Wang and Shieh (2006) conducted a regression analysis to evaluate the relationship between service quality and customer satisfaction at Chang Jung Christian University Library, Taiwan, where tangibles, reliability, responsiveness, assurance and empathy were used as independent variables, and user satisfaction was applied as the dependent variable. Similarly, Suki and Suki (2013) applied tangibles, reliability, responsiveness, assurance and empathy as independent variables, and used user satisfaction as the dependent variable, to assess service quality versus customer satisfaction from the perspectives of visitors to a public university library in Malaysia. Andaleeb and Simmonds (1998) effectively covered the full services of university libraries by combining



the two dimensions of 'assurance' and 'empathy' into a single dimension, 'demeanour', and including an extra 'resources' dimension with the original SERVQUAL dimensions. The modified SERVQUAL dimensions of Andaleeb and Simmonds (1998: 163) are: 'demeanor, competence, resources, responsiveness, and tangibles'. They conducted a multiple regression analysis where user satisfaction was applied as a dependent variable, and the five dimensions of SERVQUAL were applied as the independent variables, to explain user satisfaction at three academic libraries in Erie and Pennsylvania. Simmonds and Andaleeb (2001) applied resources, competence, responsiveness, demeanour, tangibles, familiarity and gender as independent variables, and used user satisfaction as the dependent variable, to assess the role of service quality, resources and user characteristics in three academic libraries in the USA.

In Bangladesh, Shoeb and Ahmed (2009: 197) carried out a study of the individual differences in the service quality of a private university library. They modified the SERVQUAL instrument, focusing on 30 statements in seven dimensions: 'assurance, collections and access, empathy, library as place, reliability, responsiveness, and tangibles'. They adequately covered the entire services of the university library with the inclusion of an additional two dimensions – 'collections and access' and 'library as place' – with the SERVQUAL dimensions of Parasuraman et al. (1988). Ahmed and Shoeb (2009) similarly focused on 30 statements in these seven dimensions using a seven-point Likert scale to measure service quality in the central library of the University of Dhaka. Different researchers (Alam, 2017b; Hossain, 2016; Hossain and Ahmed, 2013, 2014; Hossain and Islam, 2012; Karim, 2018; Shoeb, 2010, 2011) have used the five modified SERVQUAL dimensions – that is, resources, responsiveness, competence, demeanour and tangibles – of Andaleeb and Simmonds (1998) in several empirical studies conducted in different university libraries in Bangladesh. Most of the studies in Bangladesh (Alam, 2017b; Hossain, 2016; Hossain and Ahmed, 2013, 2014; Hossain and Islam, 2012; Karim, 2018; Shoeb, 2010, 2011) asked the respondents to appraise each statement of the SERVQUAL questionnaire from '1: lowest' to '7: highest' on a seven-point scale.

Based on the available literature, studies have been undertaken using SERVQUAL in Bangladeshi university libraries on individual differences in service quality (Shoeb and Ahmed, 2009); measuring service quality (Ahmed and Shoeb, 2009); gender perceptions of library service quality (Shoeb, 2010); identifying service superiority, underlying dimensions and tolerance zones (Shoeb, 2011); perceived service quality

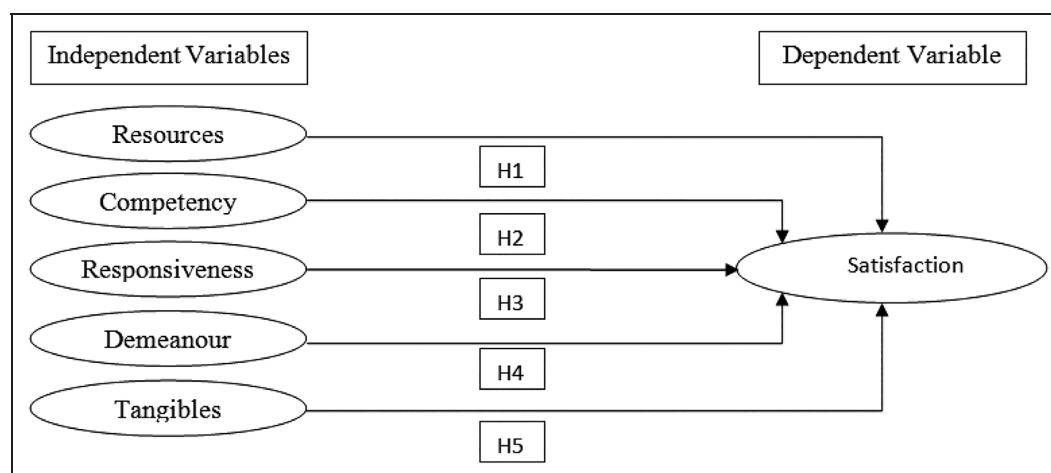
and user satisfaction (Hossain and Islam, 2012); developing a service performance assessment system for academic libraries (Hossain and Ahmed, 2013); developing and validating a service quality assessment scale to investigate service expectations (Hossain and Ahmed, 2014); identifying the major dimensions to evaluate service quality and user satisfaction (Hossain, 2016); assessing the perceived service quality of Eastern University Library (Alam, 2017b); and measuring the performance of 17 residential hall libraries at the University of Dhaka (Karim, 2018). However, very few efforts have been made to assess the effects of service quality on user satisfaction in university libraries in Bangladesh. A conceptual framework is suitable for evaluating the effects of service quality on user satisfaction, where the five dimensions of SERVQUAL are the independent variables and overall user satisfaction is the dependent variable. Using such a model, it is anticipated that the effects of library service quality on user satisfaction at Eastern University can be evaluated.

### **Objective of the study**

The application of ICTs in libraries, changing information environment, availability of electronic resources, and increasing awareness of users have left library professionals confused that they can meet their user needs or not. In order to ensure the library services that are expected by users, it is necessary to assess the quality of existing services periodically regarding the available collections, staff performance, services and facilities (Andaleeb and Simmonds, 1998; Mezbah-ul-Islam, 2003). Assessing service quality is the most useful and easiest approach for evaluating the success of the existing services of a university library (Alam, 2017b). SERVQUAL is widely used to assess service quality in various library settings, especially university libraries, around the world. The literature review revealed that there has been a moderate amount of discussion on measuring library service quality using SERVQUAL, but insufficient research on evaluating the effects of service quality on user satisfaction in university libraries in Bangladesh. The objective of this study is to evaluate the effects of service quality on user satisfaction in Eastern University Library from users' viewpoints.

### **Hypotheses**

The question is raised here as to which dimensions of SERVQUAL have significant effects on user satisfaction in a university library. Based on the objective of the study and this research question, the following five hypotheses have been formulated:



**Figure 1.** Conceptual framework.

H1. The higher the perceived quality of the resources of a library, the greater the level of user satisfaction;

H2. The greater the perceived competence of library staff, the greater the level of user satisfaction;

H3. The greater the responsiveness of library staff, the greater the level of user satisfaction;

H4. The greater the positive demeanour of library staff, the greater the level of user satisfaction;

H5. The better the perceived tangible facilities of the library, the greater the level of user satisfaction.

## Methodology

### Research design

A quantitative method was used to evaluate the effects of service quality on user satisfaction at Eastern University Library and to test the five hypotheses. An attempt was made to collect both primary and secondary data. Initially, some secondary sources were reviewed to determine what had already been written about library service quality and its effects. For the primary data, the study conducted a questionnaire-based sample survey. A conceptual framework was developed to conduct multiple regression analysis to evaluate the effects of service quality on user satisfaction, where five dimensions were used as independent variables and user satisfaction was applied as the dependent variable (see Figure 1). Several statistical methods were applied to evaluate the reliability and validity of the study.

### Questionnaire design

A structured questionnaire was designed for the study which included three elements: demographic information, 30 statements in five dimensions of service

quality, and four statements of user satisfaction. Andaleeb and Simmonds' (1998) SERVQUAL instrument was modified, focusing on 30 statements in five dimensions:

1. Resources – all of the available library resources and their ease of access;
2. Competency – 'Ability to perform the promised service dependably and accurately';
3. Responsiveness – 'Willingness to help users and provide prompt service';
4. Demeanour – courtesy and knowledge of library staff and their ability to provide individual attention to users;
5. Tangibles – 'The appearance of physical facilities, personnel, equipment, and communication materials' (Andaleeb and Simmonds, 1998: 163).

In addition, four statements were incorporated into the survey to assess the overall user satisfaction. A seven-point agreement scale was used from 1 = 'Strongly disagree' to 7 = 'Strongly agree'. A seven-point satisfaction scale was also used from 1 = 'Highly dissatisfied' to 7 = 'Highly satisfied'.

### Population, sample and data collection

The population for this study consisted of teachers, undergraduate students and postgraduate students at Eastern University. A simple random sampling method was applied to collect data from existing users of the library. In order to make the study more representative, approximately 6.47% of the total population was taken as a sample, according to the percent rule-of-thumb of 5% (Burns and Bush, 2007). A total of 330 questionnaires were delivered to 265 students and 65 teachers at the university. From these, 273

**Table 1.** Reliability statistics.

Dimensions	Cronbach's alpha	Composite reliability	Bartlett's Test of Sphericity	Number of items
Resources	0.835	0.875	0.001	7
Competency	0.891	0.920	0.001	5
Responsiveness	0.914	0.935	0.001	5
Demeanour	0.871	0.909	0.001	5
Tangibles	0.839	0.877	0.001	8
Satisfaction	0.876	0.916	0.001	4

(82.73%) questionnaires were returned. A total of 261 (76.36%) questionnaires were completed fully. After conducting a Mahalanobis distance test, nine responses were deleted based on a Mahalanobis distance from 25.98 to 33.46. Finally, 252 (76.36%) questionnaires from 51 teachers, 163 undergraduate students and 38 postgraduate students were considered for analysis based on a Mahalanobis distance from 0.25 to 21.78. To determine sample size, Roscoe (1975) proposes that where samples are to be broken into subsamples, a minimum sample size of 30 is essential for each subsample. So, a sample size of 252, including 51 teachers, 163 undergraduate students and 38 postgraduate students, is suitable for conducting the study, which has fulfilled the criteria set out by Burns and Bush (2007) as well as Roscoe (1975).

#### Data assessment methods

The 22nd version of SPSS was applied to compute the descriptive statistics, multiple regression analysis, reliability and validity statistics. The descriptive statistics assessed the overall service quality and user satisfaction. The multiple regression analysis evaluated the effects of service quality on user satisfaction by testing the hypotheses. Bartlett's Test of Sphericity, composite reliability and Cronbach's alpha measured the reliability. Moreover, factor analysis, item loading, commonalities, discriminating validity, average variance extracted (AVE), a histogram, a normal probability plot, a Kaiser-Meyer-Olkin (KMO) test and variance inflation factor (VIF) values measured the validity of the study.

#### Reliability

**Cronbach's alpha.** Nunnally (1978: 245) suggests that 'alpha values should be 0.70 or greater'. Table 1 shows that the internal consistency of the 30 statements of service quality ( $\alpha = 0.950$ ), the five variables ( $\alpha = 0.901$ ), all the items ( $\alpha = 0.931$ ), the seven statements of resources ( $\alpha = 0.835$ ), the five statements of competency ( $\alpha = 0.891$ ), the five statements of

responsiveness ( $\alpha = 0.914$ ), the five statements of demeanour ( $\alpha = 0.871$ ), the eight statements of tangibles ( $\alpha = 0.839$ ), and the four statements of satisfaction ( $\alpha = 0.876$ ) of the study was very satisfactory, indicating the good reliability overall of the questionnaire items.

**Composite reliability.** The composite reliability values of resources (0.875), competency (0.920), responsiveness (0.935), demeanour (0.909), tangibles (0.877) and satisfaction (0.916) were higher than the threshold of 0.77 (Bagozzi and Yi, 1988), indicating that all the variables are internally consistent and reliable (Table 1).

**Bartlett's Test of Sphericity.** Schierholz and Laukkanen (2007) recommend that the value of Bartlett's Test of Sphericity 'should be 0.05 or less'. Table 1 shows that the Bartlett's Test of Sphericity has  $p < 0.001$  for the 30 statements of service quality;  $p < 0.001$  for the seven statements of resources;  $p < 0.001$  for the five statements of competency;  $p < 0.001$  for the five statements of responsiveness;  $p < 0.001$  for the five statements of demeanour;  $p < 0.001$  for the eight statements of tangibles;  $p < 0.001$  for the four statements of satisfaction; and  $p < 0.001$  for the six variables – indicating that the internal consistency of the data is appropriate.

#### Validity

**Factor analysis.** Factor analysis was conducted with the principal components, where six factors were recovered which had 66% of the variance and all of the items (31.368–0.306) were loading on the factors. In factor analysis, 'only factors having latent roots [eigenvalues] greater than one are considered significant' (Andaleeb and Simmonds, 1998: 162). The six factors (19.279–4.352) had an eigenvalue of greater than one, indicating that the five independent variables were significant to conduct the study (Table 2).

**Item loading.** The criteria for item loading are '0.32 = poor; 0.45 = fair; 0.55 = good; 0.63 = very good or

**Table 2.** Validity statistics.

Dimensions	Items	Loading factors	Communalities	Eigenvalue	Variance (%)	Cumulative (%)	AVE	KMO	VIF
Resources	R1	0.781	0.745	19.279	25.631	25.631	0.502	0.822	1.828
	R2	0.705	0.630						
	R3	0.772	0.781						
	R4	0.697	0.500						
	R5	0.702	0.707						
	R6	0.681	0.511						
	R7	0.606	0.589						
Competency	C8	0.821	0.625	8.255	10.975	36.606	0.698	0.859	3.479
	C9	0.845	0.632						
	C10	0.840	0.602						
	C11	0.837	0.662						
	C12	0.835	0.688						
Responsiveness	RP13	0.860	0.721	6.405	8.515	45.120	0.744	0.888	3.927
	RP14	0.880	0.742						
	RP15	0.894	0.707						
	RP16	0.833	0.703						
	RP17	0.843	0.651						
Demeanour	D18	0.799	0.654	6.243	8.299	53.420	0.667	0.839	3.885
	D19	0.860	0.673						
	D20	0.861	0.747						
	D21	0.815	0.602						
	D22	0.741	0.746						
Tangibles	T23	0.541	0.357	5.111	6.795	60.215	0.474	0.823	1.694
	T24	0.669	0.687						
	T25	0.682	0.785						
	T26	0.759	0.649						
	T27	0.678	0.580						
	T28	0.729	0.652						
	T29	0.732	0.696						
	T30	0.697	0.572						
Satisfaction	S31	0.879	0.741	4.352	5.785	66.000	0.731	0.779	N/A
	S32	0.851	0.693						
	S33	0.851	0.624						
	S34	0.839	0.672						

0.71 = excellent' (Comrey and Lee, 1992). The item loading of the extracted variables was shown to be between 0.606 and 0.781 for the seven statements of resources; between 0.821 and 0.845 for the five statements of competency; between 0.833 and 0.894 for the five statements of responsiveness; between 0.741 and 0.861 for the five statements of demeanour; between 0.541 and 0.759 for the eight statements of tangibles; and between 0.839 and 0.879 for the four statements of satisfaction – suggesting that all the items represent their respective dimensions of service quality and user satisfaction successfully (Table 2).

**Commonalities.** Enshassi et al. (2019: 66) suggest that all commonality values of an entirely sufficient sample 'should have equal or more than 0.5'. The commonalities of the variables were between 0.500 and

0.785 for 33 of the 34 statements, indicating the variance in most of the statements is within a suitable range (Table 2).

**Discriminating validity.** A discriminating validity is achieved if the 'correlation between one scale and another is not as high as each scale's coefficient alpha' (Andaleeb and Simmonds, 1998: 161; see also Fornell and Larcker, 1981). The alpha coefficient of each factor (0.946–0.950) was as high as the correlation between one factor and another (0.306–0.781), which supports the discriminating validity of the model.

**Convergent validity.** Table 2 shows that the AVE values of resources (0.502), competency (0.698), responsiveness (0.744), demeanour (0.667), tangibles (0.474) and satisfaction (0.731) were greater than the limit of 0.50

**Table 3.** Demographic information of the respondents.

Variables	Classification	Frequency	Valid %	Cumulative %
User type	Undergraduate student	163	64.7	64.7
	Teacher	51	20.2	84.9
	Postgraduate student	38	15.1	100.0
Gender	Male	156	61.9	61.9
	Female	96	38.1	100.0
Faculty	Business Administration	93	36.9	36.9
	Law	70	27.8	64.7
	Engineering and Technology	45	17.9	82.6
	Arts	44	17.4	100.0
Age	< 20	21	8.3	8.3
	20–29	179	71.0	79.3
	30–39	32	12.7	92.0
	40–49	12	4.8	96.8
	50+	8	3.2	100.0

recommended by Bagozzi and Yi (1988), which supports the convergent validity among all the variables.

**KMO value.** The criteria for the KMO value are ‘0.90 s = marvelous, 0.80 s = meritorious, 0.70 s = middling, 0.60 s = mediocre, 0.50 s = miserable, and below 0.50 = unacceptable’ (Kaiser, 1974: 34). The KMO value matrix is 0.822 for the seven statements of resources; 0.859 for the five statements of competency; 0.888 for the five statements of responsiveness; 0.839 for the five statements of demeanour; 0.823 for the eight statements of responsiveness; 0.779 for the four statements of satisfaction; and 0.860 for the six dimensions – meaning that the 252 samples are statistically significant for conducting factor analysis (Table 2).

**VIF value.** It is necessary to test multicollinearity after the normality of the data in a regression model has been established. In a good regression model, there should be no multicollinearity and no correlation between the independent variables. According to SPSS Tests (2020), if the ‘VIF value lies between 1 and 10, then there is no multicollinearity’. The VIF values of the coefficients’ output in the collinearity statistics are 1.828 for resources, 3.479 for competency, 3.927 for responsiveness, 3.885 for demeanour and 1.694 for tangibles, indicating that there are no multicollinearity symptoms (Table 2).

## Findings

### Demographic information

The findings show that among the 252 respondents, 163 (64.7%) were undergraduate students, 51 (20.2%) were teachers and 38 (15.1%) were postgraduate

students. Among the respondents, 156 (61.9%) were male and 96 (38.1%) were female. The majority of the respondents were from the Faculty of Business Administration (93, 36.9%), followed by the Faculty of Law (70, 27.8%), Faculty of Engineering and Technology (45, 17.9%) and the Faculty of Arts (44, 17.5%). Among the respondents, 21 (8.3%) were aged under 20, 179 (71.0%) were in the 20–29 age group, 32 (12.7%) were in the 30–39 age group, 12 (4.8%) were in the 40–49 age group and 8 (3.2%) were aged 50+ (Table 3). The demographic information indicates that a broad cross section of the population responded.

### Overall perceived service quality

Table 4 illustrates that the overall mean of the perceived service quality was 5.22. Among the 30 statements of the five dimensions of service quality, ‘suitable and convenient library hours’ had the highest mean with 5.83, followed by ‘library staff are always available in the library to help users’ with 5.54; ‘library staff provide services as promised’ with 5.52; ‘auto email alert service is interesting’ with 5.50; and ‘online book reservation system saves time’ with 5.50. On the other hand, the service statement ‘existing collections adequately cover your field of study’ had the lowest mean with 4.44, followed by ‘convenient remote access to subscribed e-resources through MyAthens’ with 4.57; ‘digital institutional repository is rich and dynamic’ with 4.68; ‘existing collections adequately fulfil your information need’ with 4.69; and both ‘e-resources are easily accessible from personal computer’ and ‘collections are conveniently accessible’ with 4.94. Among the five dimensions of SERVQUAL, the highest overall performance was 5.41 for tangibles, followed by 5.40 for competency, 5.31 for

**Table 4.** Overall perceived service quality.

Dimensions	Statements	Mean	Standard deviation
T23: Tangibles	Suitable and convenient library hours	5.83	1.477
C10: Competency	Library staff are always available in the library to help users	5.54	1.518
C8: Competency	Library staff provide services as promised	5.52	1.404
T27: Tangibles	Auto email alert service is interesting	5.50	1.438
T28: Tangibles	Online book reservation system saves time	5.50	1.468
RP15: Responsiveness	Prompt and timely service to users	5.42	1.517
T30: Tangibles	Library website contains necessary information	5.41	1.441
D18: Demeanour	Library staff are always courteous, showing friendly behaviour	5.40	1.505
T29: Tangibles	Self-renewal service online is easy to use	5.40	1.536
C9: Competency	Library staff are knowledgeable in answering user queries	5.38	1.519
D20: Demeanour	Library staff deal with users in a considerate manner	5.38	1.388
C12: Competency	Users feel relaxed when interacting with library staff	5.33	1.551
RP16: Responsiveness	Readiness to respond to users' questions	5.33	1.438
T26: Tangibles	Library is fully automated and in good condition	5.32	1.498
D21: Demeanour	Library staff understand the needs of users	5.31	1.518
RP14: Responsiveness	Giving priority to users' interests	5.31	1.494
R7: Resources	Online catalogue is easy to understand	5.27	1.460
RP13: Responsiveness	Library staff have willingness to help users	5.27	1.572
C11: Competency	Providing services accurately with minimum interruption	5.24	1.388
RP17: Responsiveness	Having sincerity in handling users' problems	5.22	1.519
D19: Demeanour	Library staff are giving individual attention to users	5.17	1.522
T25: Tangibles	Appropriate study environment	5.17	1.561
T24: Tangibles	Having suitable space that encourages study and research	5.13	1.562
D22: Demeanour	Users can complain and make suggestions easily	5.06	1.659
R2: Resources	Collections are conveniently accessible	4.94	1.490
R5: Resources	E-resources are easily accessible from personal computer	4.94	1.484
R3: Resources	Existing collections adequately fulfil your information needs	4.69	1.611
R4: Resources	Digital institutional repository is rich and dynamic	4.68	1.346
R6: Resources	Convenient remote access to subscribed e-resources through MyAthens	4.57	1.420
R1: Resources	Existing collections adequately cover your field of study	4.44	1.600
Overall		5.22	0.954

responsiveness and 5.27 for demeanour. Consequently, resources, with 4.79, had the lowest overall score.

### Overall user satisfaction

The overall satisfaction score was 5.53 on a seven-point scale, indicating that the library users are satisfied with the services provided by the library. Among the four statements of satisfaction, 'I would like to use the library in the future' had the highest mean of 5.85, while the service statement 'Overall, I am satisfied with my library experience' had the lowest with 5.28 (Table 5).

### Overall perceived service quality and user satisfaction by user category

Table 6 shows the overall perceived service quality and user satisfaction by user category for the university library. The highest overall mean for perceived service

quality was 5.34 for the teachers, followed by 5.20 for the undergraduate students and 5.17 for the postgraduate students. It was also found that the teachers (5.63) were comparatively most satisfied with the services provided by their university library, followed by the postgraduate students (5.51) and undergraduate students (5.50). An analysis of variance (ANOVA) test showed that there was no significant difference in the overall perceived service quality ( $p > 0.591$ ) and user satisfaction ( $p > 0.781$ ) among the teachers, undergraduate students and postgraduate students, indicating that the respondents were similarly satisfied with the services provided by the library.

### Effects of library service quality through multiple regression analysis

To evaluate the effects of library service quality, a multiple regression analysis was carried out with the

**Table 5.** Overall user satisfaction.

Dimensions	Statements	Mean	Standard deviation
S31: Satisfaction	Overall, I am satisfied with my library experience	5.28	1.407
S32: Satisfaction	I would like to use the library in the future	5.85	1.300
S33: Satisfaction	I would like to tell others about the services of the library	5.65	1.441
S34: Satisfaction	Considering it is a university library, the quality of service is excellent	5.32	1.454
Overall		5.53	1.197

**Table 6.** Overall perceived service quality and user satisfaction by user category.

User category	n	Service quality			User satisfaction		
		Mean	Standard deviation	ANOVA	Mean	Standard deviation	ANOVA
Teachers	51	5.34	0.92	<i>p</i> > 0.591	5.63	1.05	<i>p</i> > 0.781
Undergraduate students	163	5.20	0.91		5.50	1.18	
Postgraduate students	38	5.17	1.19		5.51	1.44	
Total	252	5.22	0.95		5.53	1.20	

**Table 7.** Model summary of library service quality.

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Standard error of the estimate	Change statistics				
					R <sup>2</sup> change	F change	df1	df2	Significant F change
1	0.760 <sup>a</sup>	0.577	0.569	0.78627	0.577	67.226	5	246	0.000

<sup>a</sup>Predictors (constant): tangibles, competency, resources, demeanour, responsiveness.

<sup>b</sup>Dependent variable: satisfaction.

**Table 8.** ANOVA of the regression model.

Model		Sum of squares	df	Mean square	F	Significance
1	Regression	207.801	5	41.560	67.226	0.000 <sup>b</sup>
	Residual	152.081	246	0.618		
	Total	359.882	251			

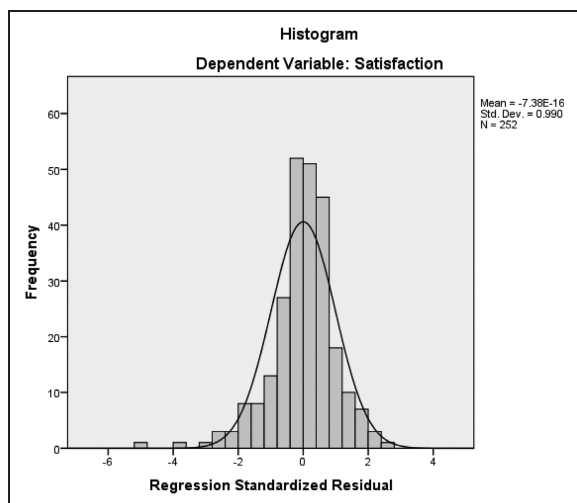
<sup>a</sup>Dependent variable: satisfaction.

<sup>b</sup>Predictors (constant): tangibles, competency, resources, demeanour, responsiveness.

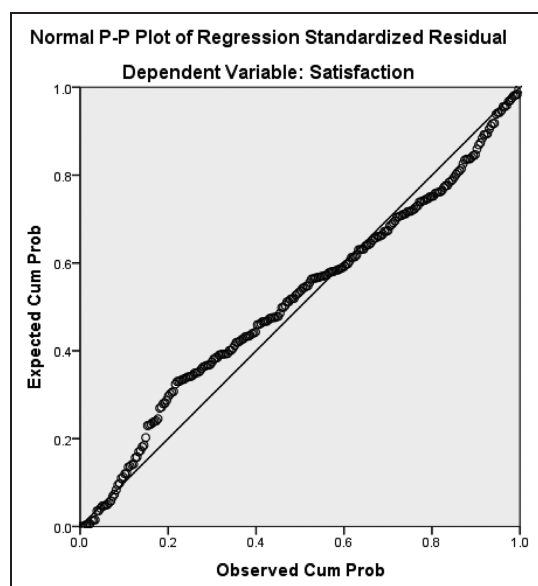
five dimensions of SERVQUAL as the independent variables to test the model and user satisfaction as the dependent variable. The overall *F*-statistic –  $F(5,246 = 67.226, p < 0.001)$  – recommended that the entire model was recognized as significant. The adjusted  $R^2$  value (0.569) indicated that the regression model explained the 56.9% variation in user satisfaction. Many scholars use the criteria of Cohen et al. (2003) – ‘less than .01 = trivial; .01 up to .30 = weak; .30 up to .50 = moderately strong; .50 or greater = strong’ – to identify whether the relationship between independent and dependent variables is weak or strong (Alam and Mezbah-ul-Islam, 2019: 132). The Multiple *R* value (0.760) indicates that the

relationship in this study was recognized as strong when applying Cohen et al.’s (2003) criteria (Table 7).

The residual sum of squares in a regression model effectively explains the variation of modelling errors. Generally, a model with a ‘large regression sum of squares in comparison to the residual sum of squares indicates the model accounts for most of the variation in the dependent variable’ (Pasha, 2009: 46). The model has a large regression sum of squares (207.801) in comparison to the residual sum of squares (152.081), indicating that the model measured most of the variation in the dependent variable (Table 8).



**Figure 2.** Visual identification of the shape of normal distribution.



**Figure 3.** Normal probability plot of the standardized regression residual.

Figure 2 shows a histogram and Figure 3 a normal probability plot, which indicate that the dependent variable is usually distributed and there is no deviation from the assumptions. The residual statistics suggest that the model is rationally confident and that there would be no restrictions in using the model.

Table 9 shows that three of the five dimensions had a significant effect on user satisfaction: responsiveness ( $b = 0.303, p < 0.001$ ), tangibles ( $b = 0.448, p < 0.001$ ) and resources ( $b = 0.163, p < 0.004$ ). The other two factors – competence ( $b = -0.078, p > 0.327$ ) and demeanour (assurance and empathy) ( $b = 0.068, p > 0.407$ ) – were not significant. However, the competence of the library staff had an insignificant negative effect on user satisfaction.

## Discussion

This study evaluated the effect of library service quality on user satisfaction in a private university library in Bangladesh. The findings of the survey show that the overall mean of perceived service performance was 5.22, indicating positive acceptance by the users. Among the 30 statements, ‘suitable and convenient library hours’ achieved the highest service performance score, whereas the service statement ‘existing collections adequately cover your field of study’ was the lowest service performance for meeting the needs of users. The library is open seven days a week from 9 a.m. to 9 p.m., which was considered suitable and convenient library hours by the users (Eastern University, 2020). In Bangladesh, a further three studies (Ahmed and Shoeb, 2009; Hossain, 2016; Hossain and Islam, 2012) have revealed that convenient library hours scored the highest perceived mean by users. The library holds about 18,450 books, 1682 journals, 568 theses, 892 audiovisual materials, and 542 institutional publications. It provides access to about 36,500 online journals and 16,000 e-books, which are considered by the library users as the lowest service performance to cover their field of study

**Table 9.** Regression results of the five factors.

Model	Unstandardized coefficients		Standardized coefficients	t	Significance	Collinearity statistics		Decision ( $p < 0.05$ )
	b	Standard error	b			Tolerance	VIF	
I (Constant)	0.426	0.289		1.472	0.142			
Resources	0.185	0.064	0.163	2.916	0.004	0.547	1.828	Significant
Competency	-0.024	0.075	-0.024	-0.315	0.753	0.287	3.479	Not significant
Responsiveness	0.279	0.076	0.303	3.694	0.000	0.255	3.927	Significant
Demeanour	0.007	0.079	0.007	0.088	0.930	0.257	3.885	Not significant
Tangibles	0.522	0.063	0.448	8.304	0.000	0.590	1.694	Significant

<sup>a</sup>Dependent variable: satisfaction.



(Eastern University, 2020). Among the five dimensions of SERVQUAL, tangibles achieved the highest service performance score, followed by competency, responsiveness, the demeanour of library staff and resources. Library professionals at the university mentioned that over the last four years comparatively less importance had been given to procuring books for the library, which may be one of the causes for less satisfaction of the users with regard to library resources. The overall satisfaction mean was 5.53, indicating the overall service quality of the Eastern University Library ensured favourable satisfaction of the users.

This study adopted a modified SERVQUAL instrument and included 30 statements in five dimensions of service quality and four statements of user satisfaction, with a seven-point Likert scale used to evaluate the effects of library service quality on user satisfaction. The 30 statements of service quality and four statements of user satisfaction were taken from the available SERVQUAL literature and adapted to local arrangements and in consultation with professional experts. The demographic information of the sample indicated that a broad cross section of the population was surveyed. The Bartlett's Test of Sphericity indicated that the internal consistency of the data is appropriate. The composite reliability values of the six dimensions indicated that all the variables are internally consistent and reliable. The Cronbach's alpha indicated good reliability of the overall questionnaire items. The KMO value matrix suggested that there is no problem with the data, and the sample size (252) is statistically significant for the factor analysis. The factor analysis recommended that all the independent and dependent variables were significant to conduct the study. The items loading suggested that all the items represent the respective dimensions of service quality and user satisfaction successfully. The commonalities of the variables recommended that the variance in most of the statements is within a suitable range. The model has a small residual sum of squares in comparison to the regression sum of squares, indicating that it adequately explained the variation in the dependent variable. The normal probability plot and histogram do not indicate any departure from the assumptions, and the dependent variable is normally distributed, which would not severely limit the use of the model. The VIF values suggested that there are no multicollinearity symptoms. The AVE values of the six dimensions supported the convergent validity among all the variables. The correlation between one factor and another is as small as each factor's alpha coefficient, indicating that discriminant validity exists. From the above discussion, it can be concluded

that all the reliability and validity statistics support the validity of the adapted SERVQUAL instrument.

The multiple regression model was established to be significant ( $p < 0.001$ ) and explained the 56.9% of variation in user satisfaction. The standardized beta values recommended that the tangible facilities of the library had the highest effect ( $b = 0.448, p < 0.001$ ) on user satisfaction, followed by responsiveness ( $b = 0.303, p < 0.001$ ) and the resources ( $b = 0.163, p < 0.004$ ) of the library. The competence of the library staff had an insignificant negative effect ( $b = -0.078, p > 0.327$ ) on user satisfaction. The demeanour (assurance and empathy) of the library staff had no significant effect ( $b = 0.068, p > 0.407$ ) on user satisfaction.

Andaleeb and Simmonds (1998) conducted a multiple regression analysis where resources, competency, responsiveness, demeanour and tangibles were independent variables, and user satisfaction was the dependent variable. They revealed that the model was significant ( $p < 0.001$ ) and the users of three academic libraries in Erie and Pennsylvania placed significant importance on library resources ( $p < 0.001$ ) and the demeanour ( $p < 0.001$ ) of library staff. Simmonds and Andaleeb (2001) carried out a regression analysis where resources, competency, responsiveness, demeanour, tangibles, familiarity and gender were independent variables, and user satisfaction was the dependent variable. The study found that the model was recognized as significant ( $p < 0.001$ ), and library resources ( $p < 0.050$ ), tangibles ( $p < 0.050$ ) and the familiarity of library staff ( $p < 0.010$ ) had significant effects on user satisfaction in three academic libraries in Erie and Pennsylvania. Wang and Shieh (2006) discovered that their regression model was significant ( $p < 0.001$ ) and, except for responsiveness ( $p > 0.186$ ), all dimensions – assurance ( $p < 0.001$ ), reliability ( $p < 0.001$ ), empathy ( $p < 0.001$ ) and tangibles ( $p < 0.001$ ) had significant positive effects on user satisfaction in the Chang Jung Christian University Library, Taiwan. Suki and Suki (2013) found that their model was significant ( $p < 0.001$ ) and all the independent variables – tangibles ( $p < 0.065$ ), reliability ( $p < 0.048$ ), responsiveness ( $p < 0.001$ ), assurance ( $p < 0.001$ ) and empathy ( $p < 0.021$ ) – significantly influenced user satisfaction in a public university library in Malaysia.

This regression model was established as significant ( $p < 0.001$ ), which is similar to the studies by Andaleeb and Simmonds (1998), Simmonds and Andaleeb (2001), Wang and Shieh (2006), and Suki and Suki (2013). Moreover, the resources ( $p < 0.004$ ) of the library had a significant effect on user satisfaction, which produced a similar result to the studies by Andaleeb and Simmonds (1998) and Simmonds and

Andaleeb (2001). The library's tangible facilities ( $p < 0.001$ ) had a significant effect on user satisfaction, which was a similar result to the studies by Simmonds and Andaleeb (2001), Suki and Suki (2013), and Wang and Shieh (2006). The responsiveness ( $p < 0.001$ ) of library staff had a significant effect on user satisfaction, which was a similar result to the study by Suki and Suki (2013). The library staff's competency ( $p > 0.327$ ) had no significant effect on user satisfaction, which produced a similar result to the studies by Andaleeb and Simmonds (1998) and Simmonds and Andaleeb (2001). The demeanour ( $p > 0.407$ ) of the library staff had no significant effect on user satisfaction, which was a similar result to the study by Simmonds and Andaleeb (2001).

**H1. The higher the perceived quality of the resources of a library, the greater the level of user satisfaction**

The standardized beta values recommended that the resources of the library had the third most significant impact ( $b = 0.163$ ,  $p < 0.004$ ) on user satisfaction. Resource strategy is important because users frequently use their library to obtain answers to their academic problems. In the present dynamic ICT environment, resources do not only mean the physical collections of a library; rather, they include a diversity of e-resources which can be accessed online. Library authorities should be open to users' demands and play a positive role in developing diversified information-access options for users.

**H2. The greater the perceived competence of library staff, the greater the level of user satisfaction**

The results show that the competency of the library staff had an insignificant negative impact ( $b = -0.078$ ,  $p > 0.327$ ) on user satisfaction. Parasuraman et al. (1991) state that competency is essential to some but not all service sectors. They also mention that being proficient is an expectation of customers with regard to equipment and automobile repairs, but is not as relevant to customer services. The author believes that receiving competent service is essential for users of academic libraries because when sloppy and incompetent services prevail, user satisfaction will be attenuated.

**H3. The greater the responsiveness of library staff, the greater the level of user satisfaction**

The results indicate that the library users attributed the second-highest level of importance ( $b = 0.303$ ,  $p < 0.001$ ) to the responsiveness of library professionals. Though implementing the qualities of

responsiveness among library professionals can be challenging, library staff should focus on their responsiveness to deliver services that satisfy their users.

**H4. The greater the positive demeanour of library staff, the greater the level of user satisfaction**

The results recommend that the library users have no insignificant impact ( $b = 0.068$ ,  $p > 0.407$ ) to the demeanour approach of the library staff. Library users look for staff who are approachable and friendly, but not unnecessarily intrusive. A good demeanour among library staff is important to library users. When library staff show a perfect demeanour in providing services, it may not be noticed, but when library staff demonstrate a poor demeanour, users will notice this and their satisfaction level will decrease.

**H5. The better the perceived tangible facilities of the library, the greater the level of user satisfaction**

The standardized beta values suggested that the tangible facilities of the library had the highest impact ( $b = 0.448$ ,  $p < 0.001$ ) on user satisfaction, indicating that the physical facilities of the library play a vital role in explaining user satisfaction. To satisfy users, library professionals should place an emphasis on keeping the physical facilities up to date and maintaining the library in a good condition.

## Conclusion

The aim of this study was to evaluate the effects of SERVQUAL dimensions on user satisfaction in an academic library in Bangladesh. It was conducted among 51 teachers, 163 undergraduate students and 38 postgraduate students at a private university library in Bangladesh; staff members and part-time faculty members were not included as they comprise a small proportion of the library's users. The results indicated that these users of the library were satisfied with the existing services, and the level of satisfaction was reasonably good. The regression model was established as significant ( $p < 0.001$ ) and indicated that the tangible facilities ( $p < 0.001$ ), responsiveness of staff ( $p < 0.001$ ) and resources ( $p < 0.004$ ) of the library had a significant effect on user satisfaction. The validity and reliability statistics indicated that the model is valid, which produced an appropriate result.

Based on the findings, some recommendations are suggested. The library authorities should place emphasis on maintaining state-of-the-art tangible facilities in the library as the users placed the highest importance on the physical facilities. Library professionals should focus on their responsiveness in

delivering services to satisfy users, as this aspect was given the second-highest level of significance. Library management should emphasize the procurement of library resources based on user needs because the users ranked resources as the third most important factor and their level of satisfaction with resources was the lowest among the five dimensions. Although the competency and demeanour of library staff did not have a significant effect on user satisfaction, library professionals should not give these factors less importance because when a poor demeanour and incompetent service prevail, user satisfaction will be attenuated.

The model has several significant implications for practice and future research. The study provided a clear picture of the existing services of the Eastern University Library and built awareness among library professionals and users regarding their library services. The findings of the study would be helpful for the authorities of the university library in planning and implementing the library services that are expected by its users. A first attempt has been made to evaluate the effects of service quality on user satisfaction in a university library in Bangladesh, which has contributed to filling the research gaps regarding library service quality. However, having established this model, more research would be required to assist in developing it as an acceptable model. The researcher hopes that the model will have implications in academic libraries that may help to produce a more effective result on the effects of library service quality.

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# Role of Lebanese public school libraries in the changing information environment

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## Abstract

Researchers and library associations are continually questioning and investigating the state and role of school libraries in different countries across the globe. This study provides original empirical material to gain insight into the situation of public school libraries in Lebanon and it aims to determine the roles assigned to them and the reasons that inhibit their development. This study revealed that the focus of libraries' programs and activities is to promote reading among students, making best use of available print books collections, while other areas of activities such as promoting research skills and supporting the curriculum are underplayed. Also, the context in which few secondary public schools libraries operate today is due to local and international community initiatives.

## Keywords

Lebanon, public school libraries, school librarians

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## Introduction

The ideals of the French Revolution – liberty, equality and fraternity – and the spread of democracy were the pillars on which the evolution of school libraries rested. Philosophers and educational practitioners, like Jules Ferry (1832–1893), adopted these ideas and supported the establishment of mandatory public and laic education in France by focusing on the role of school libraries (Lagarde, 2004). These school libraries were considered as purveyors of books in a world where books were scarce. Also, the early efforts of American librarian and educator Melvil Dewey (1851–1931), through his promotion of the New York State travelling libraries, generated public interest and influenced the vicissitudes of the school library movement (Lee, 1979).

In the 21st century, the integration of information and communications technology (ICT) shifted learning approaches in general (Mikre, 2011); the concept of

school libraries continued to evolve from a simple classroom with books to become an active, technology-rich learning environment (American Association of School Librarians, 1998). In addition, information itself became a subject matter to be taught, and school libraries strived to ensure that students and staff were effective users of ideas and information (Thomas et al., 2011). As a result, the International Federation of Library Associations and Institutions (IFLA) recognized the struggle of school library personnel and educational decision-makers, even in countries with well-resourced and well-supported school libraries, and in 2015 revised the *School Library Guidelines*, which were first developed in 2002. The

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purpose was not only to reinforce the world-shared common vision to establish school libraries as a force to enhance and improve teaching and learning throughout the school community, but also to reflect reasonable expectations and achievements in a changing information environment (IFLA, 2015).

Taking these challenges and aspirations into consideration, researchers and library associations are continually questioning and investigating the state and role of school libraries in different countries across the globe. This study focuses on the current situation of public school libraries in Lebanon. It aims to determine the roles assigned to them and the reasons that inhibit their development. First, it looks at existing laws and regulations and their impact on the evolution of school libraries in Lebanon. Second, it explores the perceptions that school principals and government officials have of the role of public school libraries through an examination of library functions, services and staffing, and an analysis of current opportunities and challenges. Lastly, the study goes on to suggest the main priorities that should be addressed in order to bridge the existing gaps towards new educational paradigms.

In order to analyse this situation, we assumed that public schools, like all other public institutions in Lebanon today, are suffering from the consequences of outdated regulations and an unstable political system. In fact, Lebanon has proposed and implemented various educational reforms since the civil war, which took a toll on the public education system – the latter had nearly collapsed by the end of the war in 1990. According to Shuayb (2018:5), despite the achievements of the 1994 reform and the development of the National Education Strategy 2010–2015, ‘the analysis of access and quality of education in Lebanon shows major gaps in the capacity of the reform to improve the quality of education’. Currently, the public sector accounts for only 30% of Lebanese students enrolled in the Lebanese education system (Center for Educational Research and Development, 2019). And according to the Ministry of Education and Higher Education (2010), the widening of the achievement gap between public and private schools is mainly due to the low qualification levels of the schools’ teaching and administrative staff, absence of a suitable learning and teaching environment, and lack of laws and regulations, which are necessary for increasing the possibility for improvement.

Given the current situation of public education in Lebanon, our hypothesis assumes that the important role of public school libraries in Lebanon is generally unrecognized. We also consider that the integration of ICT and the use of information are not perceived as an added value. Moreover, educational paradigms and

information literacy practices are not adopted by public schools. While focusing our research on the local context, it was also in our interest to consider the challenges faced by school libraries worldwide and reframe our findings and recommendations within the international context of school librarianship.

## Review of the literature

This literature review highlights the contribution of school libraries and librarians in the educational process. In addition, studies on school principals as key decision-makers in supporting school libraries are explored, especially given that our study is based on principals’ perceptions of the role of public school libraries. Realizing that conditions for the development of school libraries may vary between countries, it was deemed wise to provide an overview of the state and laws of school libraries in multiple countries to reflect the international landscape of school libraries, assuming that our one-country study findings can be integrated into a coherent whole.

In the local context, the literature review revealed that studies on public school libraries in Lebanon are scarce. Indeed, the one study conducted in 1998 by the UNESCO Regional Bureau for Education in Beirut, which surveyed 57 out of the country’s 2639 public schools, revealed the absence of appropriate facilities and equipment, insignificant budgets and ineffective laws (Kayali, 1998). In 2007, the UNESCO Regional Bureau for Education in Beirut, Goethe-Institut Beirut, Lebanese Library Association and Lebanese Association of Children’s Books held a conference on ‘School libraries as learning and information centres’. The conference aimed to foster the role of school libraries in Lebanon, given the absence of libraries in the majority of Lebanese schools, the lack of effective laws, and the lack of designation of the library professional and their status (UNESCO Regional Bureau, 2007). As for private school libraries, Sakr et al.’s (2009) study discussed and evaluated the information literacy programme implemented through the library of one private elementary school in Beirut. To our knowledge, there have been no other published studies on the state of private school libraries in Lebanon, and certainly the results of this case study cannot be generalized to other private or public schools in Lebanon, which vary widely in the level of their library services. The absence of official reporting and the failure to assess the development of public school libraries in Lebanon need to be challenged. This research article is intended to fill this research gap and provide insight into the current state of public school libraries in Lebanon.

### *Role of school libraries and librarians in light of the new educational paradigms*

Developing enthusiastic and skilled readers is an important aspect of school library programmes and activities around the world (IFLA, 2015), especially when students have a completely free choice of reading material (Dawkins and Whitehouse, 2017). When research shows that students do not read for pleasure and only engage in reading primarily to pass their examinations, promoting reading remains one of the most important challenges for school libraries, which are responsible for creating a conducive environment for reading that can engage children in reading-for-pleasure activities (Kavi et al., 2015).

In addition to helping students develop a lifelong habit of reading, the new education paradigms allow the development of other competencies that are considered essential in the 21st century. These include critical thinking, problem-solving, cooperation and teamwork, communication skills and all the information skills needed to find, evaluate and reproduce information ethically (Bruce et al., 2006; Lankshear and Knobel, 2003; Scott, 2015). Information literacy – defined as the ability to find, locate, evaluate, organize and effectively create, use and communicate information ethically – is gaining more importance in the educational process (American Association of School Librarians, 2009). In this context, school libraries have been promoted to play an integrating role in the educational process. School libraries have become learning centres and have assumed the responsibility to introduce the concept of information literacy, which has become a major competency required in the development of cognitive skills (Elder and Paul, 2009).

ICT has helped in changing the attitude of teachers towards librarians (Scheeren, 2015). In fact, many pedagogical studies (Alman et al., 2012; Scripps-Hoekstra and Hamilton, 2016) have involved librarians in the production of new educational material. The vision of these researchers was to create programmes that would allow for more interaction between libraries and electronic resources. The evaluation of these initiatives has demonstrated a correlation between school libraries and student performance, with many positive results (Lance and Hofschire, 2012; Small et al., 2010). Moreover, the evolution of school library resources has reflected the growing interest of professional school librarians to provide students with access to both books and other types of instructional materials beyond the textbook, in addition to helping them

develop a lifelong passion for inquiry, reading and learning (Lamb, 2015).

The contribution of school librarians in the educational process is expected, and the research indicated that, when collaborating with faculty members, librarians take on three main roles: librarian as reference, librarian as consultant and librarian as instructor (Scripps-Hoekstra and Hamilton, 2016). Sykes (2016) argues that the philosophy of a collaborative and participatory culture of learning across an entire school allows teachers and learners to share knowledge in a common space. In this context, a librarian also becomes a mentor and thereby takes on a bigger role, which in turn preserves the essential role of the library itself.

### *Principals' support of school libraries*

More than just understanding how the role of the school library and librarian is changing, it is important for principals and school leaders to recognize the value of school libraries. As emphasized by Kachel:

in order for the School Library Program (SLP) to be in a position of strength and importance, the principal, as the key decision maker, must perceive the SLP as critical to the mission of the school and capable of helping to achieve the principal's goals. (Kachel, 2017:50)

Since each principal will likely have different concerns, advocacy is needed to realign the time, activities and instruction to better address building concerns and the principal's priorities. School librarians need to rethink how they communicate with their respective principals and develop a plan to solve or address those priorities.

Furthermore, each principal's budgeting decisions determine the quality of their school library programme because they define or control the collection size, service hours, staff size and employment of full-time qualified teacher-librarians (Hartzell, 2003). By studying principals' perceptions of school libraries and teacher-librarians, Hartzell (2002) indicated that many principals do not understand what teacher-librarians really do, nor do they appreciate the potential contribution a library programme has to offer to student and faculty achievement. With their perceptions rooted in stereotypical images, many principals still see libraries as warehouses of materials that are managed and checked out to students by librarians who are not considered teachers. By exploring the role of principals in supporting school programmes, Oberg (2006) indicated that principal support occurs through supervising the work directly with teachers, demonstrating personal commitment and enabling the

library programme by strengthening its visibility and importance. In this case, teacher-librarians must gain the respect and support of their principals by building their professional credibility, communicating effectively and working to advance school goals.

### *Global perspectives on school libraries*

Our literature review was based on a holistic exploratory approach. Without claiming to be exhaustive, we assured a global selection of countries to cover a large number of studies published in the last 10 years that examined school library developmental issues and models in both developed and developing countries, with a focused attention on international research and reports published by the IFLA, International Association of School Librarianship and national library associations.

Shonhe (2019) indicated the inability of governments in developing countries to invest in the development and management of effective school libraries. This is the case of school libraries in many of the countries covered by the study, including South Africa, Ghana, Malawi, Botswana, Sri Lanka, India, Pakistan, Kenya, Nigeria, Tanzania, Vietnam and Bangladesh. The results showed that school libraries face similar challenges across developing countries, including poor staffing practices, poor funding, lack of a library policy, poor ICT infrastructure, poor library facilities and lack of awareness about the importance of school libraries. On the applicability of the IFLA standards in different local contexts such as China, Zhang et al.'s (2019) study showed that most of the IFLA's 16 guidelines-based recommendations were considered applicable, but several areas were thought to be poorly suited to the Chinese situation. In particular, some elements of the recommendations were politically insensitive and the lack of status of school librarians in China would make some of them impractical. In rural China, library access is a problematic issue for school libraries due to a range of factors, including large student numbers, small collections and premises, and regulations limiting the time that primary students can spend on the school campus (Abdullahi, 2017). Seefeldt and Syré (2017) outlined the current situation of German school libraries. While the German library system functions extremely efficiently, school libraries in particular would seem to be suffering from considerable neglect. On the one hand, there are too few of them; on the other, a failure to recognize their needs has resulted in entirely inadequate levels of funding, facilities, staffing and resource provision. In Sweden, recent dynamics of the law, governance and practice have affected school libraries. However, according to Farmer:

the reality is that several schools might share one collection or be served by an integrated public-school library, that about half the students in Sweden have access to a school library that has at least half-time staffing, and that one-third have no access to a school library. (Farmer, 2019:345)

In addition, educational assessments revealed the need for more explicit planning, collaboration and monitoring in Swedish school libraries. In countries like Great Britain and the USA, the development factors that are considered to have a direct impact on facilitating or inhibiting school libraries include standards, staffing and certification, government support, rationale and professionalization (Knuth, 1995). The American Library Association reported in 2019 that 91% of public and private schools in the USA have school libraries and only 61% employ full-time librarians. The association emphasizes the fact that schools with a strong school library programme and a qualified, certified school librarian have a positive impact on students' academic achievement (American Library Association, 2019). Additionally, the practical implications from the research on the impact of school library media programmes on the academic achievement of US public school students (Lance, 2001) considered three major measures: (1) funding school library media programmes; (2) the recognition of library media specialists by principals and teachers as professional colleagues in the teaching and learning enterprise; and (3) adopting technology as an essential part of a successful library media programme. Other studies on the role of school libraries in some of the Arab countries, such as Sudan (Mohammad, 2014) and Syria (Dakak, 2012; Mhanna, 2012), suggested improving the current state of school libraries by aiming to have more dynamic school libraries with more material and a higher teacher involvement. These studies depict the state of school libraries and raise awareness about the necessity to create a more dynamic, modern and computerized school library which will play an active role in helping schools achieve their educational goals.

Having presented the array and level of obstacles that different countries have encountered in successfully maintaining and developing school libraries in general, we will continue with an outline of the legislation on school libraries, representing the legal base for the function of school libraries in any country.

### *School library laws and regulations*

For a new and enhanced role of school libraries in education, attention on different political levels and legislation supporting this role became crucial. In



many countries, Education Acts have made school libraries mandatory, and school principals and policy-makers are required by law to establish school libraries. For instance, in Sweden, the new Education Act of 2010 and the Library Act of 2013 both stated that all students, regardless of school type, must have access to school libraries. Additionally, the Swedish curriculum was revised in 2017 to delegate to school librarians the responsibility of supporting and empowering students in their linguistic and digital skills (Farmer, 2019). The history of modern school libraries in France has also been marked by two laws (Tilbian, 2017). In 1962, a law mandated the creation of a space dedicated to documentation and information services in each secondary school, and advocated building up a collection of pedagogical resources and fiction books. Later, in 1986, another Act clearly defined the status, role and duties of the school librarian, but it was not until 1990 that school libraries became managed by qualified teacher-librarians instead of teachers who ceased teaching in order to manage the documentation centre. In the USA, Michie (2005) reported how national and regional standards, as well as federal legislation, affected school library media centres. The year 1965 was significant for school libraries when the 1960 *Standards for School Library Programs*, prepared by the American Association of School Librarians, resulted in federal legislation (the Elementary and Secondary Education Act Title II) supporting school libraries. For the first time, Title II provided school grants for the acquisition of library resources and materials, and each state received funds based on the number of enrolled students. In Michie's (2005) study, 49% of all public schools reported that Title II had a substantial influence on the establishment and growth of school libraries. In 2015, the Every Student Succeeds Act reauthorized the Elementary and Secondary Education Act Title II and, for the first time, the legislation included language on 'effective school library programs' and student learning outcomes. Thus, in 2018, the American Association of School Librarians published the *National School Library Standards for Learners, School Librarians, and School Libraries* to provide school librarians with a framework to develop personalized curricula, and for them to be part of the Every Student Succeeds Act's plan. In a developed Asian country such as Japan, school libraries have had issues and conflicts over the information specialist for schools. Okada (2014) explained that, in Japanese school libraries, there are two types of librarians: the school librarian and the teacher-librarian. The difference between the two is not clear and, according to the author, clarification is required on the designation of

library professionals and their status. Teacher-librarians are found in 98% of schools and are more engaged in teaching than in library tasks (Okada, 2014). In the latest version of the law, amended in 2014, the placement of school librarians has been documented in addition to teacher-librarians (Iwasaki et al., 2018).

In some Arab countries, legislation and government decrees have made school libraries mandatory, as in the case of the Iraqi government, which adopted school library system legislation (Law No. 54) in 1974 defining libraries' functions and duties. In 1991, the government of Morocco issued a Memorandum (no. 1991) that included a work plan to reconsider school libraries' role, which was followed by a second Memorandum (no. 187) in 1992 setting out the tasks of the librarians in charge and library operations. In 2015, Decree No. 240 on the organizational chart of public schools in the United Arab Emirates detailed the main duties of the 'information resources specialists' in charge of information centres in public schools in the country.

All these examples of school library laws and regulations attest to the development of school libraries in these countries and reflect the interest of governments in regulating their activities. The school library can no longer be considered an internal affair of the school. However, in many parts of the world, the establishment and development of the school library is still perceived as optional (Marquardt and Oberg, 2011). Despite all the efforts made by international and local associations advocating for effective and efficient school libraries and developing standards and guidelines, school directors, school teachers and librarians working on implementing school library programmes, administrators, and governments funding and sustaining school libraries, the international landscape of school libraries is still suffering from neglect in the educational world, especially in countries where school librarianship is not recognized as a profession.

## Research methodology

Since no official national statistics or documentation have been published with regard to public school libraries, the first objective of this study was to gather original qualitative and quantitative data on the state of Lebanese public schools using a mixed-methods research approach (Clark and Ivankova, 2016) from three main sources of evidence.

## Document review

The document review consisted of identifying and reviewing Lebanese laws and decrees in order to

understand the legal foundation of the public school library. For this purpose, we compiled laws and decrees dealing with school libraries published in the Lebanese government's official gazette and archived in the Lebanese University's Legal Informatics Center database.<sup>1</sup> The search covered all the texts of the laws and decrees currently in force and published from 1900 to 2017, with a special focus on the rules of procedure for public primary and secondary schools in Lebanon. Our search options were limited since the database does not support advanced searches and thus did not allow us to combine our keywords or search across multiple fields.

### Survey

According to the Centre for Educational Research and Development (2016), the number of schools during the 2015–2016 school year in both the private and public sectors was 2854, of which a total of 1260 (44.2%) were public schools. Since no official national statistics are published or available with regard to public school libraries, the first objective of the survey was to gather original quantitative data from public school principals about the libraries in their schools. The perceptions and appreciation of principals who respected the role of public school libraries, through their functions and services, and the profile of the school librarians who were assigned to take charge of school libraries were also documented. The questionnaire was created on Google Forms and distributed via email to a sample of 300 school principals in public elementary, intermediate and secondary schools located in different regions in Lebanon. The survey was based on a convenience sampling method and the principals were arbitrarily selected during their participation in a national leadership development workshop held by the Ministry of Education in June 2015.

Approval to distribute the questionnaire and contact the principals was granted by the ministry officials organizing the event. We did not conduct a pilot survey to test our questions because of administrative concerns. The questionnaire included 27 closed questions divided into four groups. The first group included general questions about the school, such as its location, educational level and number of students. The second group was dedicated to understanding the status of the school library and the barriers hindering the library's establishment or development. The third group focused on the principals' attitudes towards library functions and services. The fourth group of questions was dedicated to the library staff in terms of their number, working hours, specializations and training.

A total of 166 public school principals completed the questionnaire. This number of survey participants cannot yield statistically measurable results that enable us to draw general conclusions reflective of the entire population of the country's 1260 public school principals. However, this study can provide insight into the variety of issues related to public school libraries, especially when the results of the survey are combined with qualitative data from interviews.

### Interviews

Interviews provide researchers with access to 'interviewees' thoughts, reflections, motives, experiences, memories, understandings, interpretations, and perceptions of the topic under consideration' (Morris, 2015:5). Therefore, the last step in our research was to conduct three in-depth interviews with decision-makers, including two school principals and the official coordinator of public school libraries in the Ministry of Education. Our first objective was to identify and interview school principals from schools having active and functional libraries. In contrast to what is the case in the majority of schools in Lebanon, we selected two secondary schools with active and functional libraries. These two schools, which were recommended by the Ministry of Education and the Lebanese Library Association, are unlikely to give a representative view of all public schools in Lebanon; instead, they represent two cases that will allow us to highlight the problems, discuss the opportunities available, and unfold the reflections and experience of their principals in developing their libraries' services. The interview guide with the school principals was designed to match the same four axes covered in the survey in an attempt to understand the current situation and interpret the survey results. The library of the first school was established in 2009 to become a 'model library' as part of the Public Schools Library Network (2014) project launched by the Ministry of Education and supported by local and international partners. The library of the second school represented another case of an active and functional library, established in 2006 within a framework of cooperation between the municipality and the European Union. By interviewing the official coordinator of public school libraries in the Ministry of Education, our second objective was to acquire an accurate understanding of a global issue that is present in almost all school libraries in Lebanon. The qualitative data collected described the policies and steps taken by the Ministry of Education to enable the role of libraries in public schools. The interview also inquired into the strengths

and opportunities, as well as the problems facing schools and the Ministry in this regard.

The analysis and interpretation of the mixed methods consisted, first, in the treatment and analysis of the data from each method individually, and then the integration of the materials in an overall analysis and interpretation directed towards understanding the state of libraries in the public school system, as well as how to establish or develop them (Byrne, 2017). In the results, we identify the legal documents and text of laws referring to public school libraries; generate descriptive statistics from the quantitative data collected in the survey; and, finally, present a narrative analysis of the interviews. In the discussion and the conclusion, we synthesize and triangulate the findings to answer our research questions.

## Results

### Legal status

The review of the laws and decrees issued in Lebanon related to school libraries in the public sector revealed that only four texts of laws, dating back to 1968, briefly mention school libraries, in particular in areas related to library staff recruitment in primary schools, library spaces in intermediate schools, library records in secondary schools, and the promotion of reading in basic education:

- Rules of Procedure for Primary Schools: Decree No. 820 of 5 September 1968. This decree gives schools permission to hire a replacement teacher who can also be responsible for the library, particularly when it comes to tasks such as organizing books and engaging students in reading activities.
- Decree No. 2681 of 19 January 1972 on the specification of public schools' buildings. This decree provides specifications concerning the number of libraries in intermediate schools and the space allocated for the library. The decree divides the libraries into three categories: small, medium and large, where library spaces cover 90, 110 and 200 square metres, respectively. It is noteworthy that this decree did not

refer to any libraries in elementary or secondary school buildings.

- Rules of Procedure for Secondary Public Schools: Resolution No. 590 of 19 June 1974. Article 13 mentions 'library records' among other records to be kept in schools.
- Rules of Procedure for Kindergarten Schools and Official Basic Education: Decree No. 407/M/2000 of 7 August 2000. This decree mentions school libraries while stating that teachers should rely on the books and resources available in school libraries or elsewhere and urge students to read.

### Survey results

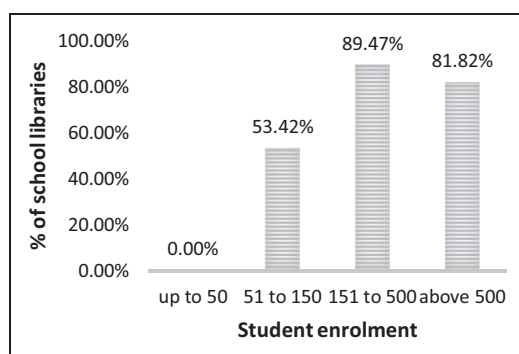
*The current state of school libraries.* A total of 166 school principals participated in the survey and provided basic information about their school libraries. The results show that 69.88% of the principals stated that their school has a library. As displayed in Table 1, the highest percentage of school libraries was in secondary schools (84.85%), followed by intermediate schools (71.84%), while elementary schools had the lowest percentage (46.67%).

The establishment of school libraries is related to the number of students enrolled in each school. These findings show that small schools, which enrol between 1 and 50 students, do not have libraries, while the percentage of school libraries increases considerably in larger schools which enrol up to 500 students (see Figure 1).

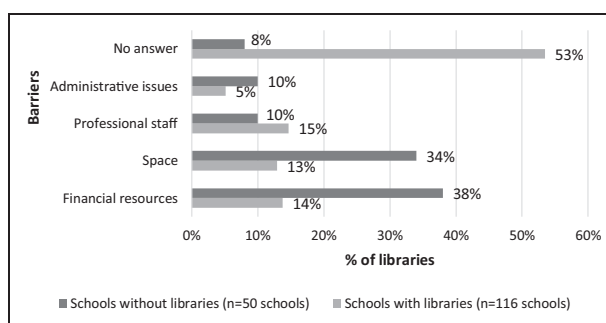
*Barriers hindering library establishment or development.* According to the school principals, many constraints prevent the establishment of a school library or hinder its development. The major constraints faced by the school principals in order to establish a school library include the lack of financial resources (38%), followed by the lack of space (34%), while the absence of library management staff and the administrative routine each represented 10%. As for the barriers impeding the development of existing school libraries, the lack of professional staff is the major cause (15%), followed by financial difficulties

**Table 1.** The current state of school libraries by education level.

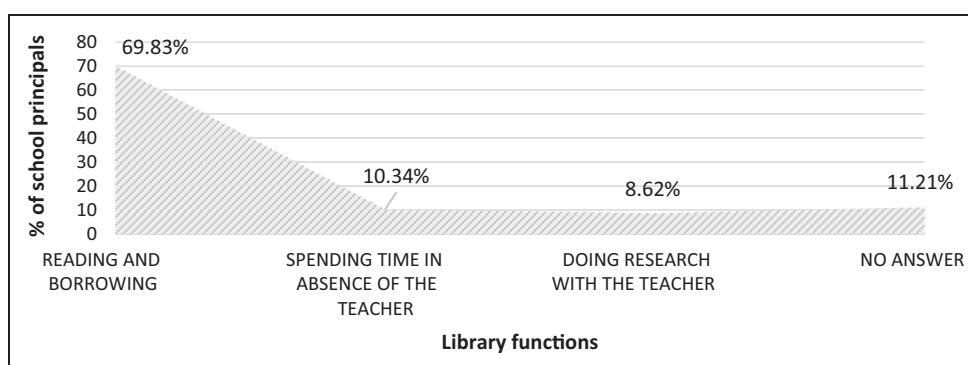
	Secondary (n = 33)		Intermediate (n = 103)		Elementary (n = 30)		Total (n = 166)	
	n	%	n	%	n	%	n	%
Schools with libraries	28	84.85	74	71.84	14	46.67	116	69.88
Schools without libraries	5	15.15	29	28.16	16	53.33	50	30.12



**Figure 1.** Percentage of school libraries based on student enrolment.



**Figure 2.** Barriers hindering library establishment or development.



**Figure 3.** Library functions according to the school principals.

(14%), then space (13%) and, finally, administrative issues (5%). Oddly, more than half of the school principals with libraries in their schools did not provide any response regarding the barriers that hinder library development (see Figure 2). This can be interpreted in two ways: either the school principals lack understanding of the barriers or they are unwilling to disclose sensitive information about their school libraries.

In light of these constraints, some of the school principals (31.33%) reported that they have received external support – mainly technical (73.08%) and rarely financial (6.63%) – particularly from non-governmental organizations (70%), while the Ministry of Education provided not more than 30% of the total aid.

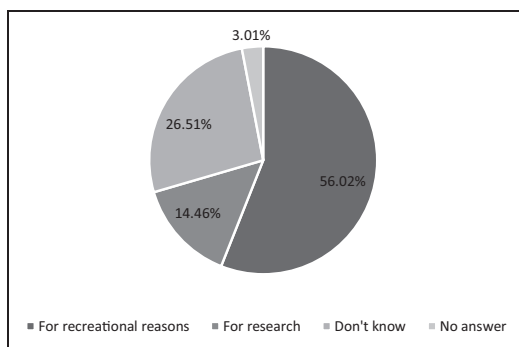
**Library functions and services.** The largest percentage of the surveyed school principals considered that the libraries on their school premises are mainly used for reading and borrowing books (69.83%). Some saw them as a space for students to spend their free time when a teacher is absent (10.34%), while others (8.62%) associated their functions with research

objectives under the supervision of a teacher (see Figure 3).

Moreover, when asked about their library's book collections, most of the school principals (63.79%) indicated that the main role of such collections is to encourage students to read. Only 18.1% considered that a library can help in achieving curricular objectives, while 13.79% considered it as a place to acquire different types of information sources.

The results clearly show a lack of ICT usage in public schools. In fact, merely 31.9% of school libraries are equipped with computers and only 30.3% are connected to the Internet. This provides very limited access to students who wish to search the Web or access electronic resources. According to the school principals, students use the Internet primarily for recreational reasons (56.02%), while only a small percentage use it for research purposes (14.46%). Here, we note that 26.51% of the principals are not aware of students' Internet usage (see Figure 4).

**Library staff.** Generally, library employees are not library professionals and do not hold a degree in



**Figure 4.** Reasons students use the Internet according to the school principals.

library science. In reality, most are teachers (89.52%), while very few are technicians (3.81%) and only around 40% have followed training sessions on library management skills. Most of the libraries surveyed were assigned one member of staff (81.90%). Of these, most were on a full-time basis (37.07%) and the remainder were either part-timers (28.45%) or hired on an as-needed basis (28.45%).

### Interview results

*Interview with the coordinator of public school libraries in the Ministry of Education.* The interview with the coordinator of public school libraries in the Ministry of Education described the actions taken to enable the role of libraries in public schools and revealed the opportunities as well as gaps in the adopted legislation and policies.

Public school libraries are suffering from the absence of regulatory and legislative laws governing their functions and defining the status and profile of their staff. Currently, schools are not explicitly obligated to establish a school library or to recruit a professional librarian, and the decision to do so is entirely in the hands of the school principal. Furthermore, the obvious funding problem, which is the primary impediment to the establishment of a school library, lies in the absence of national policies supporting school libraries, as well as the recession and funding crisis hitting the government budget. The coordinator of public school libraries emphasized that support and advocacy to influence policy and legislative change is needed, and that the ministry is currently drafting and updating the rules of procedure for public secondary schools.

Throughout the history of school libraries in Lebanon, the Ministry of Education has sought, in cooperation with local and international key partners, to

advance school libraries in general. The attempt to strengthen the role of public school libraries has brought together some key international and national partners,<sup>2</sup> and several private initiatives have been set up since 1998. These private initiatives have aimed to raise awareness regarding the role of school libraries, as well as develop libraries by providing furniture and technical supplies, donating book collections, offering training sessions to the librarians, and publishing guidelines to help them manage their libraries.

The latest significant initiative in this regard was launched in 2014, in cooperation with the Regional Bureau for Education and the Goethe-Institut in Lebanon, with the School Library Network project, which targeted 20 libraries in public secondary schools. The main goal of the project was to create a network of secondary school libraries that share their know-how in order to deal with school libraries challenges and start integrating libraries as key component in the education system. According to the coordinator, the international expertise and funding accelerated the process of implementing the project and led to the development of a “model school library” for other school libraries to follow. The current project, however, cannot cover all public school libraries, but the Ministry is trying to develop some libraries by training their staff to establish programmes that focus mainly on encouraging reading and benefiting from the existing book collections. Library activities, for example, have combined reading and performing arts, where students turn stories into comedies and plays that are performed inside and outside the school, which in turn fosters a spirit of participation and competition. This is how libraries empower students and help them broaden their horizons through creative activities. They also develop learning abilities and connect them with students’ own experiences. Last but not least, they provide the necessary environment for teamwork and performance appraisal development.

*Interview with the two school principals.* The experience of the two school libraries in developing their services has also been marked by many opportunities as well as challenges. Both libraries were supported by international agencies, which helped them secure a supply of book collections and equipment. The first school library was selected to become the ‘model library’ in the School Library Network project and the second was supported by the European Union within the framework of the European Development Action Project in Mediterranean cities and towns. While discussing the problems with the school principals, we perceived that the schools remain underfunded.

Libraries do not receive any financial assistance from the Ministry of Education, and self-financing is often insufficient to cover various library needs, especially at the technological level. Moreover, the work of school libraries is not evaluated periodically by specialists, which does not help improve the conditions of these libraries. The national assessment does not underscore the vital contribution of effective school library services and the role they play in the success of specific educational objectives. School principals encourage teachers to make use of library collections; however, only a few teachers – often Arabic and foreign literature instructors – make their students spend time in the library and use the existing resources. The principals confirmed that the current national curriculum does not adequately reflect the role of the library and they expressed the urgent need for the Ministry of Education to develop tool kits for school library programmes that incorporate a range of cultural activities. Finally, the school principals emphasized the importance of trained teachers, who are assigned to organize the work in their respective school libraries, as a key element in maximizing library services and creating a dynamic that inspires innovation and encourages competition among students.

## Discussion

Drawing on the law reviews we conducted, the results of the school principal surveys and the interviews, our study reveals that there are several different factors that impact negatively on the state of public school libraries in Lebanon. Public school libraries have been abandoned, and there is an apparent lack of government interest in including them in national educational policies and development plans. The government initiative to create a model school library as part of the School Library Network lacks both planning and long-term policies to ensure stability and continuity. However, similar initiatives in other countries, such as the School Libraries Network programme implemented in Portugal, have proved to be a success. Covering 100% of second-cycle, third-cycle and secondary schools and the majority of larger first-cycle schools, and by creating ‘Learning with the School Library’ standards, the evaluation of this programme has demonstrated the strengthened role of the school librarian in teaching and learning, and promoted the collaboration of the libraries with the school community. Teachers have recognized the innovative nature of the learning activities, and students are highly engaged and able to acquire new skills (Obergh and Schultz-Jones, 2015).

In the absence of a legal obligation, around 30% of the public school principals surveyed in this study reported not having libraries in their schools, and the majority of these libraries are found in large schools, especially at the secondary level. Unlike many countries, school library functions are not regulated by law, and the contribution of Lebanese public school libraries to the learning process is not clearly defined. This study reveals that the focus of libraries’ programmes and activities is to promote reading among students, making the best use of the available print book collections, while other areas of activity, such as promoting research skills and supporting the curriculum, are underplayed. Furthermore, while ICT has transformed library services globally, our study shows that Lebanese public school libraries are still facing major technical challenges in incorporating electronic resources into their collections and providing access to resources that are available online.

According to the school principals, the two major difficulties that prevent them from establishing a library in their own schools are finance and space. Like many developing countries, libraries in public schools in Lebanon do not receive any financial support from the government. Schools are mainly self-funded and only a small part of the budget can be allocated to the library. Moreover, regulations regarding school buildings do not include a space dedicated to libraries, even though international guidelines (IFLA, 2015) stipulate that school libraries should be designed as common learning areas. The planning of school libraries should include an adequately sized library in order to ensure enough space for book collections, their display and storage, study and reading areas, computer workstations and work areas for library staff. The lack of professional librarians has been reported to be a serious issue for school principals who have libraries on their premises. In fact, as stated in Decree No. 820 of 5 September 1968, schools can only hire a teacher – usually an elementary teacher – to take charge of a library, without having any official status as a librarian. In reality, school libraries lack qualified teacher-librarians – the library staff profiles revealed unspecialized and untrained staff who are usually assigned on a part-time basis after long years of teaching. Only a small number of these teachers have followed training sessions on school library management skills and techniques, which, according to studies (Lance and Hofschire, 2012; Small et al., 2010), drastically minimizes the potential of the library. Indeed, having a certified and highly qualified professional has correlated positively with an increase in student

achievement and motivation, yet the professional library staff issue remains a major concern in many countries around the world.

Despite all these challenges, some school libraries are benefiting from the support of local and international non-governmental organizations, which have provided them with the opportunity to optimize their role. However, these positive experiences remain intermittent and do not fall within a strategic line supported and developed by the Ministry of Education either in terms of supply or empowerment.

## Conclusion and recommendations

This study reveals the need to reinforce the roles of the school library and teacher-librarian in the education process in Lebanon. All of the policymakers and school principals participating in this study acknowledged the crucial contribution of school libraries in student learning. However, the lack of national laws and government policies, insignificant budgets, the absence of appropriate resources and facilities, and the absence of qualified teacher-librarians prohibit libraries from having a significant impact on the learning process. Obviously, this situation has not changed over the past 20 years since the last study on Lebanese public school libraries was conducted by the Unesco Regional Bureau for Education in Beirut in 1998.

The context in which a few libraries, especially in secondary schools, operate today is due to local and international community initiatives. This research found that information literacy seems to be an unknown concept in Lebanese public schools, while other studies have identified students' needs to access information and their heavy reliance on electronic information (Abboud, 2019; Abou Jreich, 2019; Nazzal, 2019). In this sense, libraries are not contributing to improving students' mastery of information literacy skills and ethical use of information. High school graduates risk not acquiring the skills needed for life and work in a technologically modern society.

As a result, strategic action must be taken in the short, medium and long term to ensure that the value of libraries is fully appreciated and their functions are optimized. There is a need to run specially tailored workshops and training sessions in order to introduce basic library management skills to library staff. Moreover, it is critical to the functioning of school libraries that the Ministry of Education develop tool kits for school library programmes that incorporate a range of activities. Over the mid to long term, lobbying is needed in order to review and update the laws and regulations. These will help put in place procedures

and policies that determine the main functions of school libraries, as well as create a strong library programme, which should contribute significantly in improving curricula. Encouraging and supporting international exchange and aid can be considered as an excellent opportunity for law-makers and policy-makers, school principals, teachers and other stakeholders to establish libraries or improve existing ones. Lastly, placing greater value on the work of library professionals is absolutely necessary to encourage the hiring of librarians based on their professional affiliation. To that end, the creation of a new Master's programme, in collaboration with the Faculty of Information and the Faculty of Education of the Lebanese University, to empower teachers with the basic and required skills to become teacher-librarians, is a possible solution that should be considered. Further research is recommended that includes a larger sample of public schools in order to produce a more robust understanding of the state of public school libraries in Lebanon. More research should also focus on recommending this study to develop significant practices, including a specific 'model school library' programme.

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## Notes

1. See <http://www.legiliban.ul.edu.lb>
2. International partners include the UNESCO Regional Bureau for Education in Beirut, Goethe-Institut Beirut, United States Agency for International Development, French Institute in Lebanon and European Union. National partners include the UNESCO National Committee, Lebanese Library Association, Lebanese Association for Children's Books and Ana Aqra Association.

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# Faculty–librarian administrative structure and collaborative activities supporting teaching and research at Vietnamese universities: A qualitative study

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## Abstract

This article reports on the administrative structure and collaborative activities of faculty and librarians within Vietnamese universities to evaluate their impact on teaching and research, as well as their collaborative benefits, advantages and disadvantages. The authors used a qualitative method to determine the current status of collaboration between faculty and librarians, and conducted 29 in-depth interviews with key participants at Vietnamese universities. The findings indicated that such collaboration was often based on the collaborators' personal circumstances and that librarian liaison partnerships primarily related to the faculty's profession, personality and attitudes at different units. Further, universities focused on collaborative activities to support teaching and research – designing syllabi, research support activities and collection development. The results of this study will be useful for stakeholders at universities in reviewing the effectiveness and limitations of collaborative relationships.

## Keywords

Faculty–librarian collaboration, academic libraries, library support services, library collaboration activities, library collaboration administration, Vietnamese universities

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## Introduction

The implementation of the 'renovation' policy (*Doi moi*) by the Vietnamese government in 1986 brought radical changes, especially in the socio-economic and educational fields. Vietnamese higher education has made significant progress in enhancing the quality of teaching and learning, as well as increasing the number of higher education institutions, lecturers and students (Ninh, 2013; Tran and Villano, 2017). Vietnamese universities have expanded the number of disciplines and introduced innovative curricula, teaching methods and information resources (Human Development Department, 2008). However, they have also faced challenges, including poor infrastructure, space limitations, passive teaching methods and

a lack of qualified teaching staff. Additionally, libraries and the available information resources did not meet user needs, curricula were rigid and of low quality, and the link between education/training and job markets was weak (Harman et al., 2010; Harman and Nguyen, 2010; Hien, 2010). Furthermore, the limited number of publications by Vietnamese researchers in international journals, as well as the low salary and heavy workload of academic staff, was reflected in

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Vietnamese higher education (Hayden and Lam, 2010). Therefore, universities in Vietnam have to improve their educational quality and meet accreditation requirements (Denison et al., 2017).

The transformation of higher education in Vietnam requires academic libraries to transform and innovate as well, acknowledging the pivotal role of collaboration towards a common university mission. Faculty–librarian collaboration plays a critical part in improving the quality of teaching and research. Numerous studies have indicated the benefits, significance and positive outcomes of such collaboration. According to Kezar and Lester (2009), it is important for administrators, faculty, staff and students to recognize and offer incentives, an administrative and human resource structure, values, resources and rewards to develop collaborative relationships. The establishment and completion of a clear administrative structure in which there is a division of stakeholder responsibilities and roles in collaborative work is necessary and will help direct faculty–librarian collaboration towards fulfilling the university’s vision and mission. However, few studies have reported cases that have established an essential administrative structure to support collaboration (Thull and Hansen, 2009; Wang, 2011).

Similarly, a limited number of studies in Vietnam have only focused on partnerships for collection development and information literacy instruction, as well as factors that cultivate and develop collaborative relationships. These studies indicate that budgets, time constraints and an asymmetry in resources were challenges that Vietnamese universities faced when working to build relationships. Administrators realized that the importance and need for building administrative structures was pivotal, but required many factors and support from stakeholders in the process (Diep, 2011; Pham, 2016). Therefore, this study is crucial and useful for administrators, faculty and librarians to identify the current status, pros and cons of collaborative work, and then find well-rounded solutions to improve and develop collaborative relationships.

The researchers conducted 29 semi-structured interviews with three key groups, including faculty, librarians and administrators (deans and vice deans of faculties and directors and deputy directors of libraries) at four universities in Vietnam to explore the faculty–librarian collaborative situation supporting teaching and research.

### Research objectives and questions

This article aims to identify the current situation and barriers in order to evaluate the benefits, advantages

and disadvantages, and then to establish effective strategies in boosting faculty–librarian collaboration. The article answers two questions relating to faculty–librarian collaboration: (1) What are the administrative structure and collaborative activities that support teaching and research at Vietnamese universities? (2) What is the effectiveness of faculty–librarian collaboration and how may collaborative relationships be enhanced at Vietnamese universities?

### Literature review

In order to have an overall understanding and to make a comprehensive comparison of the results of this study with previous studies, it is necessary to show the prominent findings of prior literature on the administrative structure and collaborative initiatives between faculty and librarians. Moreover, the characteristics of the two theoretical frameworks are also mentioned as the basis for carrying out this study.

#### Administrative structure

The administrative structure is considered to be an important part in navigating collaboration to achieve an organization’s goals. In a model concerning the factors (for example, governance structure, sociocultural dynamics and personal dimensions) that have an effect on faculty–librarian collaboration, Pham (2016) indicated that a dynamic and flexible structure and a high level of autonomy enable the development of collaboration; meanwhile, differences between the organizational structures of faculties and libraries could enable or impede the establishment of partnerships. Another piece of evidence revealed that university governance structure systems do not focus on development strategies or collaborative plans. Issues related to the responsibilities and tasks of academics and librarians working together are not clearly defined. Furthermore, universities

provided an imbalanced resourcing structure to support the implementation of collaboration frameworks and policies. Strategies for developing collaboration were insufficient, since libraries focused on collaboration in teaching rather than research, while faculties displayed a more research-focused orientation. Thus, the level of collaboration varied in different circumstances, and successful relationships were based on individual partnerships. (Pham, 2016: 192)

Another prominent model, in Kezar and Lester (2009), revealed that leaders must understand the enablers and barriers to collaboration at higher education institutions to reorganize and redesign features in the organizational context. Universities have seven features: their mission/vision/educational philosophy;

values; networks; integrating structures; rewards; external pressures; and learning. However, 'although these seven context features all support collaboration, a few of them are essential: mission and vision, a campus network, and integrating structures. Without them collaborative activities will fail' (Kezar and Lester, 2009: 60). Kezar and Lester (2009) mentioned that in order to create and establish collaborative relationships, the mission/vision is a critical feature for organizations to support collaboration by building a plan, allocating resources and considering collaboration as an important part of the mission statement. The establishment of the necessary network to create a trusting environment will enable connections between individuals. Moreover, a system that includes central and cross-functional units, finance, information and communication technologies helps connect people and support essential conditions. Other features create motivation and act as catalysts to achieve common goals.

Other studies highlight the essential role of building an organizational structure for collaborative activities. It is crucial to have the support of senior management and to arrange courses and meetings with stakeholders. Without top-down guidance, collaboration between individuals only occurs when needed (Thull and Hansen, 2009; Wang, 2011). Another study showed that the library's organizational structure is not flexible, and a lack of support from leaders is a significant barrier to collaborative initiatives (Diep, 2011).

In a survey among 480 scholars, professors, librarians and publishers in universities in Hong Kong, Singapore, Thailand and Taiwan, Yu et al. (2019) identified that collaborative leadership had not been actively supported or officially established at the surveyed universities. Therefore, the researchers proposed that managers establish incentives to implement collaborative projects. In studies related to policy, university policy is one of the crucial factors that increase librarian-faculty partnerships according to Bruce (2001).

### *Faculty-librarian collaborative activities*

The previous research findings indicated that there are four main faculty-librarian collaborative activities – namely, curriculum partnerships, research and academic partnerships, collection development, and the creation of information products and services.

Previous studies indicate that collaborative efforts help develop assignments and syllabi, the usage of subject resources, curriculum management systems and search engines to deliver student learning, and

research skills; improve lifelong learning and information literacy skills; and establish teaching programmes related to a specific course (Diep, 2011; Kenedy and Monty, 2011; Pham, 2016; Scripps-Hoekstra and Hamilton, 2016). Moreover, a number of studies also revealed the significance of collaboration in enhancing social and academic skills, learning methods, and the research competence of academics and students (Bennett and Gilbert, 2009; Junisbai et al., 2016); providing library resources via information literacy skills, scholarly databases and electronic resources (Lavery and Lee, 2014; Parton and Fleming, 2007; (Tumbleson, 2016); and conducting teaching and research activities (Rodwell and Fairbairn, 2008). For instance, Floyd et al. (2008) determined that the number of scholarly resources cited had dramatically increased and the quality of students' research had improved with bibliographic citation courses that guided students in determining appropriate subtopics and organizing a literature review.

Similarly, the joint activities involved in policy formulation and the selection, evaluation, organization and provision of library materials are also noted in prominent literature. The current literature was enriched by the report of Rodwell and Fairbairn (2008) and White (2004), who mentioned the procedures for collection development and digital resources to meet research needs and curricula; as well as to supplement and to manage materials relating to specific subjects (Pham, 2016).

Additionally, there are numerous examples available of faculty-librarian collaboration in supporting researchers in collecting, managing, citing, disseminating and storing data (Federer, 2013; MacMillan, 2014); bibliometric analysis, bibliographic instruction, research data management and curation, open-access publishing and e-research services (Corrall, 2014; Kennan et al., 2012; Kennedy and Green, 2014; MacMillan, 2014); creating information products such as web-based research guides and LibGuides (Little et al., 2010; Sugarman and Demetrapoulos, 2001); and searching for and selecting channels for publishing or hosting e-research services (Corrall, 2014).

In Vietnam, Denison et al. (2017) detailed research support activities conducted at universities such as instruction in the use of databases and online resources; research support software (for example, RefWorks, SPSS, EndNote or Prezi); providing information resources and bibliographic information to researchers according to their needs; and archiving research. However, these services were provided by libraries when required by users and did not involve collaborative activities.

**Table 1.** Number of key informants.

Number	University	Number of informants			
		Faculty	Dean/vice dean of faculty	Librarian	Director/ deputy director of library
1	Ho Chi Minh City University of Science	1	3	1	2
2	Ho Chi Minh City University of Social Sciences and Humanities	2	2	3	1
3	Nong Lam University	2	2	2	1
4	University of Technology and Education	2	2	1	2
	Total: 29	7	9	7	6

**Research methodology**

This study aims to provide a broad overview of the administrative structure and faculty–librarian collaboration activities at Vietnamese universities using interview data. In this research, four Vietnamese universities were selected for the study (Table 1). The selection of the universities was based on three criteria. First, these national-level public universities have a large number of students (over 16,000) and lecturers, and offer many undergraduate education programmes, postgraduate programmes and international link programmes. Second, they are the top universities in education programmes and the fields belonging to their strengths and missions, and are research- and technology-oriented universities and leading centres for training, research and innovation in Vietnam. Third, they cover many scientific fields (for example, social sciences, technology, natural sciences, economics, agriculture, agronomy, animal science and veterinary medicine). Therefore, establishing collaborative relationships between faculty and librarians is crucial and necessary in enhancing their research performance and the quality of their education, and thereby achieving their common goals.

This article is part of a research project that is studying the current situation and factors that affect faculty–librarian collaboration, and contributes to the development of a collaborative model shaped by the Vietnamese context. The interview protocol was developed based on the theoretical frameworks of Pham (2016) and Kezar and Lester (2009) regarding the factors influencing collaboration and the reorganizing of universities’ features. These theories adequately provide the theoretical foundation in order to help draw a comprehensive picture of the collaborative status and organizing features of universities to support collaboration, as well as identify the advantages, drawbacks, barriers and enabling elements that influence collaboration.

The questions focus on elucidating the interviewees’ perceptions of collaborative plans, policies, objectives, activities and means of contact, and the management of collaborative relationships at different units, as well as identifying the participants’ views on the advantages and disadvantages of establishing a partnership (see Appendix 1).

According to Brockington and Sullivan (2005), a qualitative methodology is useful for researchers to understand individuals’ cognition, experiences and perspectives of issues in the world. Thus, the data collection through semi-structured interviews concentrated on three main groups of participants – namely, faculty, librarians and administrators (directors and deputy directors of libraries and deans and vice deans of faculty) – and collecting documents. The interview form helps to improve the data’s detail and completeness from different participants on the same topic. Individuals’ willingness to take part in the interviews represents the selection criterion for acquiring the interview samples. Additionally, key informants also joined in the collaborative process and provided in-depth understandings of faculty–librarian collaboration. Furthermore, interviewing administrators to determine their views, perceptions and experiences helps in understanding issues concerning strategies, policies, processes, resources, collaborative work, and the weaknesses and strengths in collaborative partnerships.

The researchers contacted the directors and deputy directors of the libraries via email to inform them of the research topics and purpose, and ask them to arrange an interview schedule. In addition, the names and contact information of librarians, faculty and deans or vice deans of faculty who would be willing to be interviewed were also consulted and suggested. Furthermore, informants were also selected from the survey respondents based on their willingness to share their perspectives in order to gain an in-depth understanding of collaboration practices.

The interviews were conducted at the four universities during a two-month period from March to April 2019, with each interview lasting between 30 and 75 minutes (around 30–40 minutes for faculty and 30–75 minutes for the librarians and administrators). In order to show adequate data from participants, it is imperative to transcribe every word, which helps analyse and verify the appropriate data in the next stages (Pickard, 2007). Therefore, after every interview, the researcher transcribed the recorded files. The transcription process took from two to four hours for each recorded file.

The interview data was analysed following detailed questions. The answer was expressed under each question. Then, the similarity and difference of perspectives and ideas of themes, topics, subtopics and new issues from collected data were gathered and recategorized. Following each topic/subtopic, the perspectives and perceptions of the informants were synthesized and aggregated under the respective rows. For instance, the interview questions concerning the administrative structure were synthesized under the subtopics as shown in Table 2.

## Research findings and discussion

### *Administrative structure*

*Collaborative plans/policies.* The four universities show similar results. At most academic libraries, faculty–librarian collaboration has been integrated into specific policies (for example, circulation, collection development and information services) with a focus on building subject databases, publishing textbooks and proceedings, designing syllabi, and instruction on seeking and using databases and online resources, for example, rather than developing a separate collaborative plan or policy:

The library management board has developed an annual strategic plan for the library. However, this is a general plan for all activities without having a separate plan for collaboration work. For faculty-related work, some functional parts of the library could set up separate goals for each team, but these plans are for internal use only and could change, primarily depending on the faculty. (Library director 1)

Although the library leaders realized the benefits of building a faculty–librarian collaboration policy, related documents had not been published for three reasons: collaborative activities were included in library functions and duties, and librarians' responsibilities and daily work; librarians' welfare would be compromised if the library could not achieve the

goals set out in the collaborative plan; and the limited time and unwillingness of faculty.

One of the library directors commented: 'Contacting the faculty depends on each person's communication skills. For tasks that need the faculty's collaboration, librarians will be flexible and proactive in contacting them because the faculty are very busy; so we cannot give a detailed collaborative plan'. Therefore, the director of the library hoped that

university leaders will show interest in the faculty–librarian collaboration by issuing an official policy to require the faculty to collaborate with librarians; if it is not compulsory, the faculty will not care about the library because they think that these are useless activities and that they do not get any benefits from them.

If a collaborative policy or mechanism is issued, it will enable faculties and libraries to build a collaborative plan, process, guidelines and initiatives with the support of stakeholders.

The collaborative initiatives that had been implemented were frequently included in the annual report of the library. In other words, most administrators confirmed that faculties did not need to create a collaborative plan/policy because of the library's functions and the good relationships among libraries and faculties:

I found that our unit and academic library have had a very close and friendly relationship. When needed, we can contact librarians to ask for their help, achieving initial goals and performance without building any plans. (Vice dean of faculty 1)

Library and faculties are independent units having separate functions and roles... A library is a place to serve and to meet teachers' and students' needs; thus, we can contact and ask for support when required. I think there is no need to formulate any policies for collaboration. (Dean of faculty 1)

However, another administrator said that there was no collaborative plan for a number of reasons: faculty and librarians lack a culture of collaboration; it is difficult for librarians to support faculty in building and developing research support services because of limited competence; the faculty's teaching methods have not focused on encouraging students to use the library, information resources and services; publishing research work is not compulsory for faculty at Vietnamese universities, therefore they rarely need a librarian's support or use and request the library's information resources; faculty have not recognized the value of faculty–librarian collaboration in supporting teaching and research; most faculty work with

**Table 2.** An example of coding of synthesized interview data from participants.

Number	Topics/ subtopics	Synthesized interview data from participants			
		University 1	University 2	University 3	University 4
I	Administrative structure				
	Collaborative plans/ policies	Dean/vice dean of faculty: Our faculty do not have any policies to collaborate with librarians because I think that our university’s policy will have this, so we do not want to issue a new policy because it will be repeated. Our faculty do not build a collaborative plan with librarians. We just work with them when we have need of librarians’ support. We still work with them relating to materials, accreditation work, visiting the library.			
		Director/deputy director of library: At present, our library still does not have collaborative plans between faculty and librarians because the collaboration is daily work and collaboration activities are also a part of the yearly library plan and duties. If we do have any, they are embedded in procedures or specific work without having a detailed policy.			
	Collaborative process/ guidelines and evaluative criteria			Director/deputy director of library: Our library does not have any specific process or guidelines during the collaborative process; we just have the process of building a subject database.	
	Building collaborative groups and incentive policy				
	How to make contact and managing the collaboration				
	Other				

librarians on their own or prefer external information resources to the library (i.e. their friends, students or colleagues, a self-purchase account or the unit’s library).

The results reflect Denison et al.’s (2017) evaluation that research support services are provided by the library when required by faculty, without a clear collaborative strategy/policy between library staff and faculty.

### *Collaborative process/guidelines and evaluative criteria.*

The results are similar among the Vietnamese universities. In most cases, the faculty and librarians said that collaborative processes/guidelines are often seen in specific processes relating to library activities, such as collection development, instructions for searching in databases, and searching for and providing information. In these processes, the roles and responsibilities of the stakeholders are clearly defined. Examples can be found at the University of Technology and Education library, which has developed textbooks and published proceedings, or at the Ho Chi Minh City University of Social Sciences and Humanities library, which has developed subject databases.

In terms of evaluative criteria, collaborative effectiveness is primarily assessed from the degree of completion of an individual's work in their year-end reports and whether their initial goals have been achieved. One administrator mentioned: 'Our library has not published specific regulations in official documents, but specific tasks are assigned to librarians every year. If librarians do not finish their responsibilities, they would receive a low evaluation of their performance'. A faculty member also indicated:

When I work with librarians, I often contact them as individuals and do not report to my dean. Usually, in the results of the year-end report, I only report results achieved through the products instead of reporting during the work process. Administrators also have not managed the working time of faculty members, just rely on the final results.

*Building collaborative groups and incentive policy.* At most academic libraries, there is a group of librarians who handle the various work of faculty (for example, instruction in the use of databases and online resources, subject databases, syllabi, collection development and information services). However, librarians not only conduct collaborative work; they also undertake other responsibilities. In cases of a heavy workload, library administrators may change or call in other librarians for support if necessary. During the working process, librarians are required to report difficulties and immediately seek solutions. Librarians prepare exchanged and revised content before working with faculty.

The administrators said that they arranged opportunities for their staff to attend conferences and training, and take short courses to improve their knowledge, skills and qualifications, or they provided

flexible work schedules. However, no specific incentive policy was implemented for faculty–librarian collaboration. It mainly depended on the university's policies. A library director stated: 'My library has not had any incentive policies because this is part of a librarian's work; therefore, we would rely on their work performance and review and evaluate it at the end of the year'.

### *How to make contact and managing the collaboration.*

There are many ways for faculty and librarians to connect in the collaborative process, such as social networking, face-to-face, or by email or telephone. At Ho Chi Minh City University of Social Sciences and Humanities, the librarians frequently use email for collection development and face-to-face communication and phone calls for other activities, while they rarely use social networks to interact with faculty as they are only used with members of faculty who they have close relationships with: 'There are some cases librarians send emails to the faculty, but they never reply; therefore, it is easier and more convenient to contact faculty directly' (Librarian 1).

At the other universities, a variety of methods are used to contact librarians: email and Facebook at the University of Technology and Education, and Facebook, Zalo (a Vietnamese social network), email, telephone and in person at Nong Lam University and Ho Chi Minh City University of Science. In general, choosing communication tools depends on the nature and urgency of the work and faculty–librarian relationships: 'I use a lot of communicative ways. However, choosing appropriate ways to make contact depends on each situation. For instance, for urgent work, I call the librarians, but send an email or message via Facebook, Zalo for other circumstances' (Librarian 2).

Managing the differences in faculty–librarian collaboration in different faculties depends on the specific characteristics of the research field, the discipline, and the faculty's ability to adjust and handle specific situations. Some of the librarians indicated that most faculty were very polite, friendly, enthusiastic and willing to support librarians, while others did not care: 'different personality and attitudes; some faculty are very excited to collaborate, others are not cooperative or ignore librarians' requests' (Librarian 3). The reasons for this issue will be explained in the evaluation of collaboration below.

In the Faculty of Economics Nong Lam University, most faculty are encouraged to read and use English material in their teaching and research; thus, it is complicated for librarians to ask the faculty about collection development because discipline-specific



material has been brought in at the unit’s library and may meet their research needs.

### *Collaborative objectives and activities*

While, in general, the faculty mentioned collaborative relationships primarily in relation to teaching and research, from the perspectives of the librarians, they had a variety of objectives. It may be noted from the results from the faculty that they had many needs when working with librarians: (1) the need for librarian support to search for documents, books and textbooks regarding their teaching fields: ‘I connect with a librarian to gain more information, especially new material, because the librarian normally knows information resources and knows how to search, and helps in searching documents relating to disciplines and topics which I am researching’ (The faculty 1); (2) to satisfy document-searching needs and access information resources supporting research needs; (3) to exchange material and to support the publishing of learning material (for example, textbooks or online lectures) and conference proceedings; and (4) to create a close and friendly working environment: ‘it depends on each person’s needs; like [name of a vice dean of faculty], my objectives concern communication, accreditation, curricula evaluation, or talking about the databases’ (Vice dean of faculty 2). However, one faculty member claimed that there were no goals in the collaborative process:

I have no goal because everyone has different roles and tasks. From the university’s perspective and the relationships between individuals, it is best not to set any goals at all. I think it is good for us to be able to talk, to communicate with each other without setting up any purposes; in teaching and research, it is also not necessary.

Interestingly, the librarians highlighted explicit requests regarding the scope of practice in faculty–librarian collaboration. While the faculty’s objectives mainly centred around satisfying teaching and research needs, the librarians had more desires. In terms of research, these were: (1) meeting research needs by searching documents that were congruent with the research topics and supporting new research ideas; (2) creating the most convenient environment for the faculty to easily access information and helping the faculty learn how to use databases effectively; (3) introducing the library’s products and services so that the faculty could use the material; and (4) improving the in-depth and detailed processing of document contents to serve the demand of searching for information for teaching and research. Regarding teaching, their aims were to support the creation and

revision of syllabi that followed standards, adequately provide learning materials for students and achieve high efficiency in accreditation, and supplement essential materials: ‘In general, the ultimate goal is to acquire the most effective and best materials for the teaching and learning activities of the faculty and students’ (Librarian 4).

Additionally, the librarians noted other objectives. They sought to consult faculty in collection development and circulation policy, and to identify material in various disciplines to meet faculty needs. They also thought that faculty could help librarians by requiring and encouraging students to use the library’s resources, introducing and promoting material to students, and coordinating students’ participation in library events.

*Designing syllabi.* In recent years, Vietnamese universities have evaluated educational quality. Faculty must therefore ensure that the syllabi follow accreditation standards, in which references used in the syllabi must be available in the institution’s library. However, the designing of syllabi varied greatly between the four universities.

The University of Technology and Education showed a close connection between faculty and librarians. Ordinarily, faculty relied on the information resources provided by librarians to create a syllabus. When materials were not available at the library, faculty would propose to supplement or replace them with other literature. The textbooks and reference systems at this university adequately met the faculty’s and students’ learning and teaching needs. It is, therefore, convenient for assessing quality assurance.

By contrast, at the other universities, most of the faculty commented that the library’s collections were old and inadequate to satisfy their teaching needs, and that they rarely used their materials and the available information resources at the faculty libraries to design a syllabus. Consequently, the librarians spent more time checking references. If the material used in the syllabi was not available at the library and could not be supplemented, librarians required the faculty to delete or replace it with other material; however, some faculty did not cooperate:

Building a syllabus is the most strongly connected activity between faculty and librarians since librarians will directly contact faculty to recheck and adjust a syllabus (if any). However, contacting is tough . . . some faculty are not willing to collaborate because they are (1) afraid of change, (2) do not have time, (3) do not have a budget for modifying and updating the syllabus, so they do not care. (Library director 2)

**Collection development.** Librarians and administrators reported that their library annually raised funds for collection development. Thus, in order to enhance the quality of information resources to meet learning, teaching and research needs, it was essential to collaborate. Usually, librarians would send a list of publications to the faculty to ask for their selection, or require a list of specific material relating to the faculty's teaching and research fields, and would then notify the faculty after purchase. The results of this study support Le's (2010) findings about librarians' roles in the acquisition of information resources based on specific subjects, creating subject guides and reading lists, and introducing new collections for faculty. However, most faculty complained that the library's information resources merely met students' basic learning needs; in particular, there was a lack of specialized databases and online resources. Therefore, most faculty searched and used external information sources for their research activities.

According to the librarians, they also encountered challenges that impeded collection development, such as limited budgets, no faculty support, or complicated policies and procedures. One library director reported:

Faculty do not care about our library because they are very busy . . . Sometimes, librarians send emails or documents to require the faculty's support in selecting material from publishers' lists, but they ignore them. Furthermore, our university's procedures are complex, including six steps; thus, after approval by managers, publishers no longer have the material required; in some cases, if our library selects and sends this list to faculty, we are not sure whether those books will be selected or not.

On the other hand, at the University of Technology and Education's library, information resources and specialized databases were highly appreciated by faculty because their leaders were ready to buy new databases to serve students' learning and intensive research needs.

**Research support activities.** Vietnamese universities primarily focus on research support activities – that is, instruction in using online resources and databases; introducing research support software (for example, Endnote, Latex, EEWOWW or Mendeley); publishing textbooks and conference proceedings; seeking and providing information resources based on researchers' demand; and archiving research work.

Instruction in using online resources and databases was the most important and most often performed activity at the Ho Chi Minh City University of Social Sciences and Humanities. This university's library started providing instruction on using databases to 20 faculty members in 2017. Relying on syllabi, library staff extract lists of specialized material from the library databases and organize sessions that take place in the faculty/department office. This activity helped build close relationships with faculty:

Many years ago, the library did not actively contact faculties or departments in guiding and sharing new information; rather, it merely provided support when asked by the faculty. However, our library now wants to show a proactive role in approaching the faculty to promote useful information resources for them that they do not know of. (Library director 3)

One of the librarians' biggest concerns was that the instruction in using information resources and databases had not focused on providing sources related to specific topics and was characterized by limited time for instruction. Consequently, this activity was not meant to stimulate and attract faculty in using the library's resources and services. While the other universities instructed via video, individual consultation or the provision of access accounts, and used in-person instruction when the library added new databases, it was difficult to attract participants because of time constraints, faculty awareness and the databases' fields.

The number of needs for seeking and providing information resources services based on researchers' demand at universities was limited for three reasons: (1) the faculty already had good information search skills; (2) the information resources did not satisfy their research needs; and (3) faculty could use other sources to seek more in-depth information. However, some of the librarians said that although few faculty members used this service, they recommended that their students contact librarians for searching assistance and to provide documents to serve their research needs.

In terms of introducing research support software, all of the librarians commented that most of the faculty had good skills and knowledge of using software to support research. Thus, the librarians introduced them to some common and useful software (for example, Endnote, Latex, EEWOWW and Mendeley) via websites and Facebook pages: 'For research or citation, most members of our faculty [the Faculty of Information Technology Ho Chi Minh City

University of Science] use support software proficiently; thus, we do not need any support or guidance from librarians' (Vice dean of faculty 3).

When asked how they supported faculty in publishing textbooks and workshop proceedings, the librarians indicated that they worked with a reputable publisher and were responsible for supporting procedures, documents, appraisal and publication costs. Publishing support was a regular activity and highly appreciated by the University of Technology and Education faculty. There were sustainable and close relationships between librarians and faculty, in which both parties were willing to support each other in certain activities.

No collaborative work was in place to archive and manage research data at the academic libraries. Faculty members wanted to manage their data using their personal computers, mobile storage devices, Google Drive, Dropbox and so on. However, since their libraries followed the published university deposit policy, for theses, dissertations, textbooks and reference books, they were required to submit a hard copy and compact disc.

Other collaborative activities were conducted at these Vietnamese universities, such as supporting faculty in organizing conferences, events and seminars (i.e. exhibiting specialized material, receptions and seeking grants); introducing books to faculty; providing documents and data to evaluate the curricula; developing software; and managing faculty/department libraries. The University of Technology and Education library staff also supported faculty in confirming statistics and providing application documents and files for the titles of Associate Professor and Professor. Furthermore, some of the libraries have developed a liaison librarian model and provide a designated research room to stimulate and assist with research needs, or a link for faculty to deploy a learning and research consultation service for students.

### *Evaluating the collaboration*

The results, in general, show the different findings from the interviewees' perspectives relating to the evaluation of collaborative effectiveness. Most of the faculty explained that, within the scope of collaborative work, they highly appreciated the librarians' support because the library staff were friendly, enthusiastic and supportive. However, when asked to explain why faculty were not interested in the library or did not support library staff in collaborative activities, several reasons were cited: the lack of promotion of information

resources and library services; limited information resources, especially discipline-specific databases at the library; faculty's research needs were not urgent, thus their use of information resources and library services was limited; time constraints; and individual needs:

Connecting to librarians depends on personal needs because we cannot request the relationship between faculty and librarian to be like this or like that... For some activities that need librarians' support, the faculty also contact them to ask for their help. (Vice dean of faculty 4)

Faculty need to use the library. However, the discipline-specific resources are not sufficient for their research needs; thus, they will use other faster and more up-to-date resources.

By contrast, the evaluative results provided by the librarians are entirely different. It is essential to realize that the collaborative relationship between librarians and faculty is superficial and non-intensive, not frequent and continuous. The collaborative work that takes place in the first and necessary steps between individuals is provided as needed but without a sustainable connection. This may be due to several factors: the universities having no collaborative plan/strategy to require collaboration; many faculty and administrators not perceiving the roles and benefits of a faculty–librarian collaboration relationship; faculty not understanding the role of librarians and the services provided by the library; in daily practice, faculty being unwilling to collaborate with librarians to solve problems, contacting them mainly when they need librarians' support for issues that they cannot resolve by themselves; librarians and faculty not establishing a collaborative process, guidelines or evaluative criteria, and collaborators' responsibilities and roles not being clearly defined; librarians' knowledge and skills being constrained in supporting faculty to conduct teaching and research activities; and, with regard to psychological issues, librarians not being confident about their knowledge and skills when working with faculty.

These reasons are similar to those from previous studies in Vietnam, where faculty underestimated librarians' teaching capacity (for example, teamwork skills and English language skills); thus, this influenced opportunities for librarians to establish a collaborative relationship with partners. Furthermore, the lack of support from leaders and administrators, faculty's work overload and limited time, and limited knowledge about specific subjects/majors have prevented

librarians from implementing collaborative initiatives (Diep, 2011; Nguyen, 2008; Pham, 2016). Therefore, these librarians hoped that collaborative models would become more professional in the future.

The results from the interview data indicate the different perspectives of faculty and librarians. However, collaborative work at these Vietnamese universities has achieved the following:

- Faculty members and library staff are proactive in collaborating to design syllabi and curricula to meet accreditation standards. Moreover, faculty appropriate the roles of librarians in supporting their students to search for information and providing information resources following research needs. At the University of Technology and Education, the library plays a critical role in promoting research activity by connecting with publishers to support publications on campus.
- Various information channels and social networks have capitalized on contacting the faculty and promoting the libraries' products and services.
- A group of librarians has been established who are willing to support faculty at units to deploy collaborative work.
- Library staff have excellent expertise and skills, and are enthusiastic about supporting faculty.
- Collaborative work has been integrated into the yearly plans of faculties and the academic libraries, although with no strategic plan for faculty–librarian collaboration.
- Librarians are flexible and ready to support faculty when problems arise, as well as organizing meetings to resolve these problems, thereby experiencing mutual cooperation.
- Administrators at academic libraries have created opportunities for librarians to join events and activities to improve their knowledge and expertise, and expand their relationships.

Although collaboration in Vietnam only focuses on primary collaborative initiatives, the administrators, faculty and librarians desired that collaborative partnerships be promoted and extended for the following benefits:

- Faculty members play essential roles in advertising information resources to students and enhancing the effectiveness of library use.
- Faculty members are useful to consult and provide information about resources relating to their extensive expertise, which librarians are limited in. At the same time, librarians can provide new information resources and guide the use of databases for faculty.
- Librarians can save faculty time in searching for and selecting documents.
- Librarians can connect to valuable publishers and support the publishing process of faculty.
- To capture faculty's teaching and in-depth research needs for timely support.
- The improvement of teaching and research skills and the performance of collaborators.

## Conclusion

Based on the evaluation of collaborative effectiveness, the authors have provided recommendations to improve and develop sustainable faculty–librarian relationships. Leaders should develop and publish a collaborative plan that defines the roles and responsibilities of faculty and librarians, and identify compulsory rules in the collaborative process. In addition, they ought to develop information resources, especially specialized databases and advanced discipline-specific knowledge. On the other hand, librarians need to self-study and enhance their specialized knowledge, research skills and competencies to support faculty in publication strategies and research activities. They must be more proactive in communicating with faculty, actively promoting information resources and useful services for the faculty's teaching and research. Librarians also need to actively promote the library and information products and services, as well as information resources. Furthermore, the authors argue that libraries and faculties should design a specific collaboration process and guidelines, and identify criteria to evaluate the effectiveness of their collaboration. Finally, it is recommended that a liaison librarian model is deployed to better support faculty in their teaching and research activities.

## Appendix

### Appendix I. The interview protocol.

Interview questions	Librarian	Faculty	Dean/ vice dean	Director/ deputy director of library
1. Could you please tell me about your duties at the faculty/library?	✓	✓	✓	✓
2. Have your faculty/library built a faculty–librarian collaboration policy/plan? If not, why not? If you have, how does this policy/strategy relate to the mission, vision, educational philosophy and strategic plan of your university? How often is this plan/policy reviewed, adjusted and updated?			✓	✓
3. Does your faculty/library regulate/arrange or support faculty to participate in the collaborative process?	✓	✓	✓	✓
4. Does your faculty/library clearly define the roles and responsibilities of the participants in the collaboration? Please specify (if any).	✓	✓	✓	✓
5. How does the faculty/library collaborate with a librarian (for example, contact, discuss and organize collaborative activities)? Are these activities included in the library/faculty’s policy/plan?	✓	✓	✓	✓
6. Does your faculty/library set up any groups/committees to carry out collaborative activities? Who are the members of these groups/committees and what are their specific tasks?			✓	✓
7. Does your faculty/library create specific rules, procedures and guidelines for implementing collaborative activities? Please specify (if any).	✓	✓	✓	✓
8. Does your faculty/library build regulations or criteria for evaluating the outcomes of collaboration? Please specify (if any).	✓	✓	✓	✓
9. Does your faculty/library regularly hold meetings/seminars to discuss collaborative issues? What are the specific contents of the meetings/seminars?	✓	✓	✓	✓
10. Does your faculty/library set up incentive policies for faculty to join in collaborative activities? Please specify (if any).			✓	✓
11. Do faculties allow librarians to attend faculty meetings/seminars? How do you manage the faculty–librarian collaboration at different faculties?	✓			✓
12. Could you please tell me about the similarities and differences in the faculty–librarian collaboration at different faculties?	✓			✓
13. What objectives in the collaborative work do you expect to support teaching and research? Are these objectives included in the faculty’s strategic plan/policy?	✓	✓	✓	✓
14. In which activities do you collaborate with librarians in supporting teaching and research? How do you do this?	✓	✓	✓	✓
15. What do you think are the results of the collaborative model between faculty and librarian? What are your satisfaction level and recommendations to solve outstanding problems (if any)?	✓	✓	✓	✓

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# Collections and services of public libraries in West Bengal, India: An evaluative study against the backdrop of the IFLA guidelines

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## Abstract

The purpose of this study was to investigate the status of district-level public libraries in West Bengal, India. The study focused on staff as well as services against the backdrop of collection development policy. It also investigated the problems faced by librarians and suggested measures to overcome these difficulties. The researchers used a mixed-methods approach – quantitative and qualitative methods – to obtain the data. However, the primary means of data collection was a survey method using a structured questionnaire. Additionally, interviews were carried out with librarians in order to bring more subjectivity to the results. The findings suggest that no selection committees have taken place to recruit new staff in different public libraries; hence, libraries have been suffering from a shortage of staff. Due to severe shortage of library staff, book database has not been completed in Libsys library management software in any surveyed library. Public libraries are established to provide a variety of services to their users. Thus, services are the main product of the public library system. The findings reveal that different kinds of services – such as children's, career guidance and community information services – are provided by the surveyed libraries to benefit their user communities.

## Keywords

IFLA, public library service guidelines, library collections, library services, public libraries, West Bengal, India

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## Introduction

India is a diverse country with the second largest population in the world after China; it is the seventh largest country on the basis of area, with more than 1.2 billion people spread over 29 states and 7 union territories (Office of the Registrar General, 2011). West Bengal is the fourth most populous and culturally diverse state in India. Its total population is more than 91 million and the literacy rate is 77.08% (Chakraborty and Pattrea, 2016).

Public libraries in West Bengal have a long history within the Indian public library movement. The foundation and development of libraries in undivided Bengal started with the efforts of the British and various missionaries (Kumar, 2011: 62). The British

played a pivotal role in inculcating interest and awareness about public libraries in West Bengal (Saha, 1988: 132). Calcutta was considered to be the central place for initiatives, movements and the development of libraries in Bengal (Nair, 2004: 120). In 1690, Job Charnock, an East India Company official, chose to establish a trading post in Calcutta. Following this, several academic institutions and libraries were set up throughout the country (Pradhan and Tripathi, 2010: 31).

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Prior to independence, public libraries were mostly owned or operated by private companies and organizations (Majumdar, 2008: 3). However, after independence in 1947, libraries faced many problems in maintaining their services due to the lack of a standard library policy on the part of the West Bengal government. Consequently, the government organized various programmes and tried to develop public libraries through a Five-Year Plan (1951–1956; Datta, 2012: 5). According to Roychaudhury (1988: 18), 762 government-controlled and -sponsored public libraries had been established by 1977 in West Bengal. A landmark development was witnessed in 1979 when the Left Front government passed the West Bengal Public Library Act (Bandyopadhyay, 2008: 15). Majumdar (2008: 176) states that the Left Front Party opened a new chapter of growth and development of public libraries in West Bengal. Notably, Bandyopadhyay remarks that:

With the advent of the Left Front Government in West Bengal, people at every corner became at least aware of the existence of government sponsored public library in their locality, running mostly from public exchequer. The number of government sponsored libraries quickly raised from 762 to 2418. (Bandyopadhyay, 2008: 14)

After the enactment of the West Bengal Public Library Act, more than 1710 public libraries were established in various categories either as government or government-sponsored libraries. Currently, there are 12 government libraries, 2463 government-sponsored libraries and 7 government-aided libraries, along with the State Central Library as the main body. In every district, there are three categories of public libraries: district libraries, town/sub-division libraries and rural/primary unit libraries (Department of Mass Education Extension and Library Services, 2013).

The *IFLA Public Library Service Guidelines* (Koontz and Gubbin, 2010) are the most useful and widely accepted international guidelines. These guidelines revise the guidelines for public libraries published in 2001. They were drafted by a working group made up of members of the committee of the IFLA's Public Libraries Section. These guidelines are framed to provide assistance to library and information professionals in most situations so that they might better develop effective services, relevant collections and accessible formats within the context and requirements of their local community. The guidelines cover seven key areas – namely, 'Mission and purpose', 'Legal and financial framework', 'Meeting the needs of customers', 'Collection development', 'Human resources' and 'Management of public libraries' and 'Marketing of public

libraries' (Koontz and Gubbin, 2010). The evaluation in this study is done on the basis of the IFLA guidelines with respect to the collection size of each district library.

### Statement of the problem

The present study investigates the status of the collections and services of public libraries in selected districts of West Bengal, India. The *IFLA Public Library Service Guidelines* (Koontz and Gubbin, 2010) are framed to assist libraries in terms of their collection development, services, etc. This article examines whether the collections of the surveyed libraries exist according to the IFLA's guidelines. Do these libraries have trained and capable staff to meet the demands of the user community? Do the libraries have an adequate number of staff to provide effective services? Public libraries are established to cater for the information needs of their users. However, there is a concern to evaluate the satisfaction of users with the information resources, facilities and services of public libraries. Importantly, the IFLA sets the minimum standards for the information resources, facilities and services to be provided by public libraries. Thus, these guidelines serve as a set of instructions for present-day librarianship. By following the guidelines, the satisfaction level of users will be enhanced.

### Objectives of the study

The main goal of the present study is to know how far surveyed public libraries in West Bengal adhere to the IFLA Public Library Services Guidelines. The IFLA's guidelines cover seven areas (see above). However, this study seeks to focus on the following objectives:

- How far the collection development policy is in line with the IFLA's guidelines;
- To compare the collections of the surveyed libraries in accordance with the IFLA's guidelines;
- To compare the strength of the staff of the surveyed libraries in accordance with the IFLA's guidelines;
- To measure the availability of information and communications technology (ICT) applications in the surveyed libraries of West Bengal;
- To investigate the status of automation in the surveyed libraries;
- To compare the services provided by the libraries in accordance with the IFLA's guidelines.

### Review of related literature

Various studies have been conducted by a number of scholars on public libraries in the different states of

India. Since it is not possible to review the entire literature, studies have been reviewed that are more significant and related to the present study. In India, there are different levels of public library systems: national, state, district, town/sub-division, branch and rural (Ramasamy, 2003). Significantly, rural public libraries in India are in a very poor state, and more than 70% of the population resides in rural areas. There are several problems faced by rural public libraries, such as poor infrastructure, inadequate library collections and ICT facilities, a deficiency of professional staff, linguistic diversity, political issues, the inadequacy of annual budgets, the negligence of the government and a lack of structured national policies (Ghosh, 2003). In their article, Walia and Momeni (2011) discuss 'collection development in public libraries of Tehran'. Although the scope of their study is limited to one city – i.e. Tehran – it examines collection development with respect to the total population as well as the viable population. Their study is inspiring for the present work as it analyses library collections in accordance with the IFLA and UNESCO guidelines (Gill et al., 2001).

Kaur and Walia (2015: 143) reveal that 'public libraries need to be as much user-friendly as they need to be tech-friendly in order to achieve its main goal of providing unparalleled information resources and information services to the users'. A study conducted by Azhikodan (2010) on public libraries in Malabar, North Kerala, in terms of their administrative set-up and service patterns indicates that the current status of public libraries is not even at a satisfactory level, and they do not follow the proposed IFLA and UNESCO (2001) guidelines. The results also show that public libraries generally follow traditional or outdated methods with regard to services and management processes.

A study by Sen (2017) examines the quality of the library collection and services provided by the district library of North 24 Parganas in West Bengal according to users' perspectives. Sen reveals that a large number of the library users are graduates but unemployed, and they use the library to prepare for competitive examinations. The findings also show that users are not satisfied with the library's collection and services. The study is useful for the present work as Sen emphasizes collection development and users' perceptions. Jacob's (1990) study, although older, is still relevant for the present study with respect to collection development policy.

Pradhan and Tripathi (2010) conducted a study on the current status of the public library system and services in one of the districts of West Bengal – Darjeeling – one of the most popular tourist provinces in India. Their results highlight that the majority of rural public libraries have,

among other things, inadequate library collections, bad infrastructural facilities, and an absence of professional and non-professional staff members. An important suggestion is made by the authors that, in the district of Darjeeling, the majority of the people are unemployed and uneducated, therefore the library authorities should take initiatives to use marketing techniques that enable them to identify the needs of their users and serve them accordingly. Deswal (2010) reveals that the state central library and most of the district libraries in Haryana are also not in a good condition. These libraries suffer from various problems in maintaining the library systems and services – for example, a shortage of staff, insufficient funds, an inadequate and outdated library collection, poor seating arrangements and a deficiency of library space.

A study was conducted by Wani (2006) to assess the status of public libraries in the state of Jammu and Kashmir in terms of their infrastructure, collections and staff. Their study reveals that most of the libraries are operated out of rented buildings where the seating arrangements are very poor. Moreover, most have insufficient reading materials and book collections that are not arranged systematically. Wani suggests that the library authorities should implement the Public Library Legislation Act for the development and growth of the public library system and services in Jammu and Kashmir. Karn et al. (2006) attempt to highlight the current position of public libraries in the state of Jharkhand. Their findings show that all of the libraries have suffered from a lack of infrastructure, inadequate book collections, a shortage of professional staff and a deficiency of support from the authorities. Karn et al. (2006: 29) also suggest that the Government of Jharkhand should take the initiative in 'appointing a high power committee to justify comprehensively' the whole public library system and recommend some positive solutions to create dynamic and standard public library services in Jharkhand. Mahapatra et al. (2017) demonstrate that district public libraries have not yet started the library automation process because of a lack of support from the authorities and the infrastructure in South Tripura, north-east India. Kalita and Kalita (2017) claim that, due to poor library collections, infrastructure, ICT-based services and government assistance, the number of library users is reducing daily in rural libraries in the Nalbari district of Assam.

Aslam and Sonkar (2018) reveal that a large number of users are satisfied with the services and facilities offered by nine public libraries in the Lucknow district of Uttar Pradesh. Many users suggested that public libraries should provide computer, Internet and photocopying facilities. Furthermore, the study proposes that public libraries should create their own

websites and advertise their resources virtually. Saleh and Lasisi (2011) evaluated the public library services in the new state of North East Region in Nigeria. Their study reveals that most public libraries are unable to provide basic services to their user communities due to inadequate library collections and poor ICT facilities. Saleh and Lasisi suggest that the public libraries of Nigeria should follow the IFLA guidelines in developing their library collections and services.

Salman et al. (2017) evaluated public library services in Nigeria against the IFLA's public library service guidelines (Koontz and Gubbin, 2010: 11) and revealed that:

Since most of the services provided in the public libraries studied in Nigeria were seemingly irrelevant, not current, or needed maintenance or upgrading, the libraries should embark on finding innovative ways to improve their services to become more relevant to the needs of the community. (Salman et al., 2017: 36)

Warraich et al. (2018) found that public libraries were mostly in a poor condition in terms of their collections, services, staff and ICT infrastructure in the Punjab province of Pakistan. Their study also reveals that a significant number of libraries were functioning with outdated collections and a total absence of ICT applications. The authors claim that the current situation of public libraries is poor due to a lack of government support and lack of interest on the part of political leaders.

Baada et al. (2019) reveal that users of public libraries in the Greater Accra Region of Ghana were dissatisfied with the quality of the collections and services provided across all branch libraries. Their study also shows that most of the libraries had outdated collections, a lack of ICT infrastructure and a lack of reading space for their users. Ansari and Munshi (2018) report that only four public libraries in the Murshidabad district of West Bengal had collections that were in accordance with the IFLA's guidelines (Koontz and Gubbin, 2010). The variation in the growth of their book collections is due to substantial donations by philanthropists and members of the legislative assemblies from this area. However, the study also explains that the budget allocated to these libraries is quite meagre, hence a substantial increase is needed in these times of high inflation. Another study conducted by Munshi and Ansari (2019) highlights how public libraries in the Nadia district do not only serve as information resources for their user communities, but also regularly organize a number of programmes which make their users feel that libraries are a place for education as well as

recreation. Moreover, these libraries play an important role in the development of socio-economic and cultural activities in the district.

A number of studies have been conducted with regard to reading habits (Bandyopadhyay, 2008), information marketing and promotion (Pradhan and Tripathi, 2010), infrastructural facilities (Ansari and Munshi, 2017), and career guidance services for unemployed youth (Munshi et al., 2019) in the public libraries of West Bengal. However, no recent studies have been conducted in terms of the collections and membership size of the 12 district libraries – namely, Bankura, Birbhum, Dakshin Dinajpur, Darjeeling, Hooghly, Howrah, Malda, Murshidabad, Nadia, Purba Medinipur, Purulia and Uttar Dinajpur.

Having gone through the literature, conclusions can be drawn concerning public libraries in various states in India. Most of the previous studies reveal that public libraries experience financial problems, a shortage of professional as well as non-professional staff, poor infrastructure, inadequate library collections, a lack of modernization and a paucity of government support. Significantly, many scholars have suggested that public libraries in every state should be upgraded on the basis of modern technologies and arrange their service patterns, information management and facilities to enhance their value in society. It is noteworthy that the IFLA's guidelines clearly state that:

Public libraries must, whenever possible, make use of the new technologies to improve services and provide new ones. This means a considerable investment in various kinds of electronic equipment, and a reliance on this equipment for the delivery of services. To continue to perform effectively equipment should be upgraded and replaced. (Koontz and Gubbin, 2010: 41)

Therefore, public libraries in India should develop their existing systems based on modern technologies, as recommended by the IFLA's guidelines.

## Research methodology

In order to collect the primary data, the investigators used a structured questionnaire as the survey instrument. In addition to the questionnaire survey, an interview method was also applied to determine the actual situation and problems faced by librarians. The investigators first designed a draft questionnaire in light of the related literature and the study conducted by Warraich et al. (2018) on 'Gauging the collection and services of public libraries in Pakistan'. The investigators then visited three district libraries – Nadia, Murshidabad and Purulia – for pilot testing of the

draft questionnaire. Many suggestions were received from the librarians at these libraries and the questionnaire was revised accordingly. In finalizing the questionnaire, technical jargon was avoided and simple English was used. This was done keeping in mind the level of understanding of the library staff.

According to the 2011 Census, West Bengal is divided into 3 administrative divisions: Burdwan, Jalpaiguri and Presidency. There are 7, 6 and 6 districts, respectively, in each division, resulting in a total of 19 districts. The investigators selected 4 districts from each division using a lottery method. The 12 districts are: Bankura, Birbhum, Dakshin Dinajpur, Darjeeling, Hooghly, Howrah, Malda, Murshidabad, Nadia, Purba Medinipur, Purulia and Uttar Dinajpur.

The questionnaire was categorized into four main sections. The first section covered the total number of books, newspapers and periodicals subscribed to by the libraries. The second section included the number of professional as well as non-professional staff members available in those libraries. This section included sanctioned staff members along with the vacant posts in the district libraries of West Bengal. The third section covered the technical processing of books, the availability of ICT tools and the library automation process. The aim of the fourth section was to learn about the various services and facilities provided by the libraries for their users.

West Bengal's public library system is based on three tiers of libraries: the district level, the town/sub-division level and the rural/primary level. The present study covers only district-level libraries. One of the researchers personally visited the above-mentioned district libraries and distributed the questionnaire among the librarians. Face-to-face personal interviews were also conducted with the same librarians. During the interviews, many questions were asked, such as how they procured reading materials, what were the tools and techniques adopted for the acquisition of books and other sources of collection development, and the financial sources for the automation process. Data from important documents such as the libraries' annual reports was also collected for the present study.

## Findings

### *Collection development policy*

Collection development policies give direction to librarians, as well as users, on how the collection of a library may be built up to satisfy the needs of users. The IFLA's guidelines mention that:

Each public library system requires a written collection management policy, endorsed by the governing body of

the library service. The aim of the policy should be to ensure a consistent approach to the maintenance and development of the library collections and access to resources. (Koontz and Gubbin, 2010: 79)

Written collection development policies are a common part of the public library landscape and have been endorsed by many scholars as an important means to guide staff and other stakeholders (Evans and Margaret, 2012; Gorman and Brian, 1989; Gregory, 2011; Johnson, 2009). According to the written policy of the Directorate of Library Services, all public libraries in West Bengal have to purchase books from the annual book fairs which are organized in each of the districts from November to February by the West Bengal government. The Directorate of Library Services organizes the annual book fairs with the assistance of the Local Library Authority under the chairmanship of the District Library Officer of the respective district.

The librarians in all the district libraries reported that, during the months from September to November, all the district libraries officially ask their users to express their needs and demands concerning the procurement of new books and other reading materials. Each library maintains a user-demand register, which is kept at the circulation desk so that members can easily write down their needs and suggestions. At the end of November, a central meeting is held that includes library committee members and one representative from the state government, who shortlist the books from the wish list in accordance with the availability of funds. These libraries receive recommendations in the region of 350 to 400 books. However, only 200 to 250 books can be purchased every year due to budget constraints.

In addition to this, the Raja Rammohun Roy Library Foundation is one of the major sources of collection development in libraries. It is an autonomous central government organization funded by the Ministry of Culture of the Government of India, and a nodal agency to support public libraries. It functions as a promotional agency, an advisory and consultancy organization, and a funding body for public library development in India. Every year, the Raja Rammohun Roy Library Foundation (2020) donates a number of books to all public libraries in India. The librarians at the surveyed libraries reported that they received 300 to 350 books each year from the Foundation in English as well as Hindi. As India is a linguistically diverse country, the Foundation provides Hindi books for the promotion of the Hindi language, which is one of the additional official languages of West Bengal.

All of the librarians at the district libraries in this study also reported that they occasionally

received 30 to 50 books per year as gifts from philanthropists as well as non-governmental organizations. Sometimes, local authors also donated books to the libraries. Further, some of the librarians remarked that they sometimes received donations from Members of the Legislative Assembly. Notably, this money was utilized for purchasing textbooks (school course materials) to support poor and needy students.

### Library staff

This section looks at the number of professional and non-professional staff in the libraries, along with the number of vacant positions.

**Table 1.** Number of staff in district libraries of West Bengal.

District library	Library staff		
	Number of professional staff	Number of non-professional staff	Number of vacant positions
Bankura	2	2	6
Birbhum	3	2	5
Dakshin Dinajpur	3	4	3
Darjeeling	3	2	5
Hooghly	2	2	6
Howrah	3	2	5
Malda	3	3	4
Murshidabad	2	2	6
Nadia	3	2	5
Purba Medinipur	2	2	6
Purulia	4	3	3
Uttar Dinajpur Government	3	3	–

**Number of professional staff.** The findings with regard to staff show that all of the libraries were being run by two to four professional staff. This indicates that all of these libraries were facing an acute shortage of staff. It is evident that this scarcity of staff affected many important service points of the surveyed libraries.

**Number of non-professional staff.** The librarians were also asked to indicate the number of para-professional staff in their libraries. Table 1 demonstrates that the situation was not very different to that for professional staff. The data shows that all of the libraries had two to four non-professional staff members.

**Number of vacant positions.** Table 1 also displays the number of vacant positions in the libraries. These numbers relate to professional staff. The primary reason for these vacant positions was the absence of a selection committee for the recruitment of new staff.

### Library collections

This section reviews the collections of the surveyed libraries in the form of the number of books, magazines and newspapers.

**Number of books.** As shown in Table 2, the data suggests that 11 of the surveyed libraries had modest collections. These libraries owned book collections ranging from 41,000 to 93,000 titles. Only one library – Uttar Dinajpur Government District Library – had a book collection of approximately 21,000. Notably, this library was established in 2004 and is hence the newest.

**Number of newspapers.** The librarians were further asked about the number of newspapers regularly received in their libraries. Only Malda District

**Table 2.** Library collections of district libraries of West Bengal.

District libraries	Year established	Number of books	Number of newspapers	Number of magazines
Bankura	1956	79,737	6	26
Birbhum	1958	41,656	4	33
Dakshin Dinajpur	1914	73,751	6	45
Darjeeling	1955	58,641	4	35
Hooghly	1955	60,678	4	32
Howrah	1956	77,962	5	31
Malda	1937	64,648	7	62
Murshidabad	1955	56,816	6	65
Nadia	1955	93,624	4	27
Purba Medinipur	1955	68,684	5	30
Purulia	1950	49,848	4	36
Uttar Dinajpur Government	2004	21,384	5	44

**Table 3.** Ratio of books to active library members.

District libraries	Number of books	Number of active members	Number of books available per member	Rank
Nadia	93,624	1264	74	1
Bankura	79,737	1663	47	2
Hooghly	60,678	1335	45	3
Howrah	77,962	1765	44	4
Dakshin Dinajpur	73,751	1844	40	5
Darjeeling	58,641	1460	39	6
Purba Medinipur	68,684	1920	35	7
Murshidabad	56,816	1860	30	8
Purulia	49,848	1584	31	9
Malda	64,648	2222	29	10
Birbhum	41,656	1450	28	11
Uttar Dinajpur Government	21,384	1020	20	12

Library was subscribing to eight newspapers. The rest were acquiring four to six newspapers regularly. However, each library subscribed to two newspapers in the English language, with the remainder being Bengali newspapers.

*Number of magazines.* The range of magazine subscriptions was 26 to 65. These magazines were usually for children and mostly in Bengali.

#### *Library book collections with respect to membership*

It is worth mentioning that, though, thousands of members have registered as library members over the years in the libraries under study. However, membership details in the Libsys software have been created only for those members who have paid an Annual Registration fee in the last three years. These members are deemed to be active members in these surveyed libraries.

The data analysis in Table 3 concerns the ratio of the total book collections to the active members, and provides the rankings of the 12 surveyed district libraries accordingly. The study reveals that Nadia District Library had the highest ratio, with approximately 74 books per member, while Uttar Dinajpur Government District Library had the least, with around 20 books per member. If we group these libraries further, 5 libraries had a ratio of more than 28 to 35 books per member. Another group consists of 5 libraries that had a ratio of between 39 and 51 books per member.

#### *ICT equipment*

This section discusses the number of computers, printers and photocopiers in the surveyed libraries.

*Number of computers.* Table 4 displays the number of computers available in the different libraries for staff and readers. All of the libraries had an equal number of computers for staff (three). However, for readers, the number ranged between two and nine. Those libraries with larger numbers of active members had more computers.

*Number of printers.* The majority of the libraries, as demonstrated by Table 4, had only two printers. Only three libraries – Nadia District Library, Bankura District Library and Howrah District Library – had three printers. It is worth pointing out here that these three libraries were found to have larger collections in comparison to the other libraries.

*Number of photocopiers.* All of the surveyed libraries had one photocopier. In some of the libraries, these machines were very old models and thus the staff reported complaints about their photocopiers.

#### *Status of library automation*

With the financial support of the Raja Rammohun Roy Library Foundation, the state government planned to start an automation process in the public libraries of West Bengal. The project was approved in the 2008–2009 financial year. For the sustainable development of the project, the surveyed libraries had received US \$278,154 in 2008–2009 and US \$59,965 in 2011–2012 (Department of Mass Education Extension and Library Services, 2013). The automation process, however, started in 2013–2014 in all the district libraries.

The data reveals that all the district libraries were using Libsys 7 library management software. The study ascertained that four libraries had computerized

**Table 4.** Status of ICT equipment in district libraries of West Bengal.

District libraries	Number of computers	Number of printers	Number of photocopiers
Bankura	6	3	1
Birbhum	8	2	1
Dakshin Dinajpur	12	2	1
Darjeeling	5	2	1
Hooghly	5	2	1
Howrah	8	3	1
Malda	6	2	1
Murshidabad	5	2	1
Nadia	9	3	1
Purba Medinipur	8	2	1
Purulia	11	2	1
Uttar Dinajpur Government	10	2	1

more than 85% of their total collection, while five libraries had done about 70%. The librarians at three libraries said that they had computerized around 65% of their total collection. They reported that 'due to the shortage of professional staff members, the automation process is slightly slow'. However, all of the surveyed district libraries were using the Cataloguing, Acquisition and Open Public Access Catalogue modules of Libsys. Most of the librarians also claimed that 'many library staff are not knowledgeable with modern technologies which hindered the library automation processes'. Notably, none of the libraries had Wi-Fi connectivity.

### Services and facilities

**Reference service.** Reference service is a cornerstone in libraries. All the surveyed libraries provide reference service to their users. However, some of the libraries assist their users in locating material while the majority of the libraries only assist users in getting call numbers through OPAC. Staff of the former category personally go to the shelves and assist users in locating the right book while in case of the latter, library staff do not personally go to the shelves.

**Children's services.** The IFLA's guidelines clearly mention that the 'public library has a special responsibility to meet the needs of children' (Koontz and Gubbin, 2010: 19). Notably, the survey demonstrates that all of the district libraries had a separate children's section. The libraries had also arranged a number of children's books, magazines, toys, maps, globes and so on in these sections. According to the *Annual Report of the*

**Figure 1.** Drawing competition organized by Dakshin Dinajpur District Library in 2019.

*District Library Officers, 2017–2018*, an average of 40 to 60 children used this section regularly. Significantly, in order to develop children's hidden talents, all of the libraries occasionally organized various competitions – for example, drawing competitions, extempore competitions, quizzes and debates on various issues during the annual book fair. On the last day of the book fair, prizes and certificates are awarded to the winners of the competitions (for a photograph of a children's activity, see Figure 1). Consequently, the findings of the study agree with the proposed guidelines given by the IFLA.

**Women's services.** All of the district libraries had separate reading rooms for women and had arranged special books, as well as magazines, in specific bookshelves or almirahs. The librarians also indicated that they frequently organized programmes for women, such as seminars on social issues, celebrations for International Women's Day or conduct awareness programmes for several diseases (for a photograph of a women's activity, see Figure 3).

**Extension activities.** The IFLA's guidelines state that: 'An important role of the public library is providing a focus for cultural and artistic development in the community and helping to shape and support the cultural identity of the community' (Koontz and Gubbin, 2010: 19). All of the librarians stated that, to motivate library members as well as non-members, district libraries celebrated various occasions such as Saraswati Puja, Independence Day, Rabindra Jayanti and International Mother Language Day. Notably, during these occasions, they organized cultural programmes such as music concerts, poetry readings, mime shows, drama, dance and mono acting (for photograph of such activity, see Figure 2). According to the *Annual Report of the District Library Officers, 2017–2018*, an average of 200 to 250 members and non-members participate in these kinds of programmes.

**Career guidance services.** During the 1999–2000 financial year, with the financial assistance of the state government and the Raja Rammohun Roy Library Foundation, all of the district libraries opened a separate career guidance section for unemployed youth

who are preparing for competitive examinations. A large number of books and periodicals are available in this section. In addition, the libraries have organized career counselling programmes where experts from various subjects are invited to deliver lectures to motivate unemployed youth (Munshi et al., 2019).



**Figure 2.** Cultural programme organized by Dakshin Dinajpur District Library on the occasion of International Mother Language Day, 21 February 2019.



**Figure 3.** Celebration of International Women's Day by Birbhum District Library, 8 March 2019.

**Bibliographic services.** The data shows that, out of the 12 district libraries, only 5 were providing bibliographic services (Table 5). Moreover, 7 librarians mentioned that, due to a lack of professional staff, they were unable to offer these services to their users.

**Community information services.** As mentioned in the IFLA's guidelines: 'Public libraries are locally based services for the benefit of the local community and should provide community information services' (Koontz and Gubbin, 2010: 23). The study revealed that all of the district libraries were providing various types of community information – for example, employment opportunities, health information, local and political news, and information for livelihoods and on transport – in accordance with the IFLA's guidelines. The findings show that almost all of the surveyed district libraries had a good collection size, but the absence of professional and non-professional staff had hampered many of the librarians' routine activities. Furthermore, the shortage of staff had restricted these libraries in providing better services for their users. These findings may encourage library authorities to start a recruitment process so that the public library system in the state can be strengthened.

**Photocopying facilities.** As shown in Table 5 that photocopying facilities is being offered by all the district libraries at a nominal charge.

**Table 5.** Services and facilities provided by district libraries of West Bengal.

District libraries	Children's services	Women's services	Extension activities	Career guidance services	Bibliographic services	Community information services	Photocopying facilities
Bankura	✓	✓	✓	✓	x	✓	✓
Birbhum	✓	✓	✓	✓	✓	✓	✓
Dakshin Dinajpur	✓	✓	✓	✓	✓	✓	✓
Darjeeling	✓	✓	✓	✓	✓	✓	✓
Hooghly	✓	✓	✓	✓	x	✓	✓
Howrah	✓	✓	✓	✓	x	✓	✓
Malda	✓	✓	✓	✓	x	✓	✓
Murshidabad	✓	✓	✓	✓	x	✓	✓
Nadia	✓	✓	✓	✓	x	✓	✓
Purba Medinipur	✓	✓	✓	✓	x	✓	✓
Purulia	✓	✓	✓	✓	✓	✓	✓
Uttar Dinajpur Government	✓	✓	✓	✓	✓	✓	✓



### Problems and suggestions

The survey included two open-ended questions that invited the librarians to mention various problems they were facing in maintaining their library and suggestions for further improvements. The study revealed some serious problems that were being encountered by the librarians in all the surveyed district libraries. On the other hand, the librarians offered several suggestions for improvement.

Almost all the district libraries were facing a shortage of professional as well as non-professional staff, except for the Uttar Dinajpur Government District Library. The librarians reported that a number of staff members had a lack of knowledge regarding modern technologies and managerial skills. They also suggested that the Government of West Bengal should start an urgent recruitment process and fill the vacant posts. It is also necessary to train the working staff members in modern library technologies.

Another problem faced by the librarians is the lack of ICT applications. The majority of the librarians indicated that due to the insufficient number of computers and other ICT tools, they were unable to provide computerized services for their users. They believed that 'this is one of the major reasons that the number of users is decreasing day by day'. This result substantiates the findings of Kaur and Walia (2015) that Delhi public libraries are not making the desired efforts to implement modern technologies and therefore the number of library users is decreasing. Thus, the government should provide enough computers and other necessary ICT applications to organize the library system and services in accordance with modern technologies.

Some of the librarians opined that each district library should create a separate website, which would help to increase the web visibility of the various library services they provide. Moreover, library staff must enhance their professional skills by attending seminars, workshops and training programmes. Lastly, only a few district libraries provide a mobile library service. It was suggested that the library authorities should provide mobile library services, especially for housewives and disabled people who are unable to visit a library.

### Discussion

The findings related to collection development policy suggest that all of the surveyed district libraries follow a written policy regarding collection development, and thus procure new books in accordance with user demand. Nevertheless, library committee members shortlist books for purchase from a wish list depending

on the available budget. This is in contrast to the findings of Azhikodan (2010) related to another state in India. Jacob (1990), in her article, describes how she managed to prepare a collection development plan for Skokie Public Library in the USA. Notably, with the help of the new plan, librarians and patrons could have easy access to all policies related to collection development. Similar efforts are needed in the libraries under study here.

As far as their collections are concerned, all the surveyed libraries meet the minimum level of stock in accordance with the IFLA's guidelines. The major parts of the collections, however, are in the Bengali language, which is spoken by the majority of the state's population. Furthermore, these libraries have various categories of documents, such as books, periodicals, magazines and newspapers. This is in consonance with the studies of Dasgupta (1989), Ghosh (2005) and Kumar (2011), who mention that public libraries in India have been recognized for their potential to be local centres of information and learning for the deprived masses. By developing collections in the local language, the surveyed libraries have been encouraging community participation at the grass-roots level. The number of books per active member varies from library to library, the main reason being the year of establishment of the library. The results of the study relate to the study of Walia and Momeni (2011). Book selection procedures depend on the value and quality of the services available in the library. Mukherji states that:

Such knowledge of books as will make it possible to select them intelligently and use them to the best advantage of the individual reader and the community is necessary to every librarian and to any worker with books who deals also with the reading public. Intelligent book selection for library use is based on definite principles and carried on with the tools planned for the purposes. (Mukherji, 1960: 22)

Therefore, public libraries should develop their collections on the basis of their users' needs and requirements.

All of the surveyed libraries suffer from the problem of a shortage of staff owing to the fact that no recruitment process has been carried out since 2010. In the past decade, many professional and non-professional staff have retired. It is obvious that users depend on staff for efficient services. However, the Directorate of Library Services of West Bengal has paid little attention to this.

The National Knowledge Commission was created way back in 2007, and libraries were specifically

addressed by the Commission. Its recommendations included the need to 'reassess staffing' in libraries. Therefore, increased attention on the part of the government to improve the plight of public libraries, as suggested by Helling (2012), is the need of the hour across India.

The shortage of library staff has also hampered the process of library automation. Libraries have purchased library automation software but cannot even complete the data entry of their older collections. Furthermore, a lack of ICT skills among library staff has also hampered the process of automation. It is worth pointing out that the surveyed libraries were unable to deliver many services which are dependent on ICT applications. Unfortunately, the benefits of automation are not being reaped by the users of the surveyed libraries in the desired manner. This finding correlates with the study of Emojorho (2011), which shows that ICT benefits are minimal in public libraries in South South Nigeria.

## Conclusion

The results of this study reveal that public libraries in West Bengal have some serious problems and thus need urgent attention. Although there is a written collection development policy, no policy has yet been framed with regard to e-resources. Although modest collections are available in all the surveyed libraries, attention in terms of their range and depth is also very important. By and large, these libraries depend on the collections available at the annual book fair. Perhaps the most disturbing aspect of the findings is how little emphasis has been placed on the recruitment process. All public libraries are facing severe staff shortages, but no selection committee has been convened since 2010. Thus, vacant positions for professional and non-professional staff have affected routine services in these libraries. Adequate staff numbers will provide better services for users. Having paid attention to the recruitment process, libraries with more staff should look to the possibilities for librarians to design new services. This scenario, it would seem, would attract increasing numbers of users to libraries.

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## Abstracts

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### مستخلصات

### الخلاصة:

#### Knowledge and Skills for accessing Agricultural Information by Rural Farmers

المعارف والمهارات اللازمة لوصول المزارعين الريفيين إلى  
المعلومات الزراعية

أوغونا بينيديت فيدلوجو و

مجلة الإفلا، 47-2

### الخلاصة:

يشكل المزارعون الريفيون الغالبية العظمى من منتجي المحاصيل في أي اقتصاد نام. ويتوقف مستوى وصولهم إلى المعلومات الزراعية على ما لديهم من معرفة ومهارات وتهدف هذه المقالة إلى تحديد مصادر المعلومات الزراعية، ومستوى المعرفة والمهارات التي يمتلكها هؤلاء المزارعين للوصول إلى هذه المعلومات في جنوب شرق نيجيريا. جمعت البيانات ذات الصلة من خلال مقابلات منظمة ومناقشات جماعية. وتتضمن طرق التحليل التواتر والنسب المئوية والمتوسطات. وأظهرت الدراسة أن 41.7% من المجيبين تتراوح أعمارهم بين 41 و50 سنة، وأن 62.6% منهم متزوجون، وأن 84.8% منهم مسيحيون، في حين لم يحصل 29.8% منهم على تعليم رسمي.

وكان الأصدقاء وزملاء العمل هم المصدر الرئيسي لمعلوماتهم الزراعية، أما مستواهم من حيث المعرفة والمهارات اللازمة للوصول إلى المعلومات الزراعية فقد اتسم بالتدني بوجه عام. ويقدم هذا العمل إطاراً موضوعياً، وأداة لقياس الكفاءات الحالية، كما يحدد مقدار الحاجة إلى اكتساب المزيد من المهارات.

الكلمات الرئيسية: المعلومات الزراعية، المزارعون الريفيون، المعرفة والمهارات، الأمن الغذائي، المزارعون، الإنتاج الزراعي

#### Research methodology practices among postgraduate Information Studies students in Tanzania

ممارسات منهجيات البحث لدى طلاب الدراسات العليا في علم  
المعلومات في تنزانيا

إستر ندينجي-سيشالوي، وإيمانويل فرانك إيليا

مجلة الإفلا، 47-2

تبحث هذه الدراسة الببليومترية ممارسات منهجيات البحث لدى طلاب ماجستير الآداب في علم المعلومات (MAIS) في جامعة دار السلام، تنزانيا. أظهرت الدراسة مدى القصور الذي يعانيه الطلاب في فهم مفاهيم منهجيات البحث وتطبيقها. وكان البحث الاستقصائي هو الغالب في الدراسة، مع التوسع في نطاق استخدام طرق جمع العينات المقصودة الملائمة غير الاحتمالية.

واستُخدمت العينات العشوائية البسيطة والعينات الطباقية في جمع العينات الاحتمالية التي جرى استخدامها على نطاق واسع. كما أظهرت النتائج قصورا في تحليل البيانات النوعية والكمية المتقدمة. ومن الناحية العملية، يمكن أن تساعد نتائج الدراسة مؤسسات علوم المكتبات والمعلومات في جميع أنحاء العالم في تحسين منهجيات البحث في مجال التدريس لإنتاج أطروحات عالية الجودة، ذات استنتاجات منطقية يمكنها تطوير نظريات جديدة. كما يمكن أن تُترجم الأطروحات العالية الجودة إلى زيادة كمية المقالات الصحفية وجودتها، وازدهار تخصص علوم المكتبات والمعلومات. وبالتالي، ثمة حاجة إلى تعزيز التدريب على منهجيات البحث للطلاب والمحاضرين لتوليد نتائج قابلة للتعميم تلبي شتى الاحتياجات.

الكلمات الرئيسية: طرق جمع البيانات، وأبحاث علم المكتبات والمعلومات LIS، ومنهجيات البحث في علم المكتبات والمعلومات، ونهج البحث، وتصميم البحث، وطرق البحث، ونموذج البحث.

#### TETFund intervention in the provision of library resources in academic libraries in Nigeria

مداخلة الصندوق الاستئماني للتعليم العالي TETFund لتوفير  
الموارد للمكتبات الأكاديمية في نيجيريا  
كاجيتان أونينيكي، أيونانيا، لوبن أهانكو

مجلة الإفلا، 47-2

### الخلاصة:

تناولت هذه الدراسة مداخلة الصندوق الاستئماني للتعليم العالي لتوفير الموارد للمكتبات الأكاديمية في ولاية إيمو، نيجيريا. وقد استرشدت الدراسة بأربعة أسئلة بحثية وثلاث فرضيات صفرية. كما اعتمدت على تصميم بحث استقصائي إلى جانب استخدام الاستبيان كأداة للبحث. شمل مجتمع الدراسة 105 موظف مكتبات مهني وشبه مهني في جامعتين في ولاية إيمو. وأظهرت النتائج أن مداخلات

الصندوق أسهمت إلى حد كبير في توفير موارد المعلومات في الجامعتين موضوع الدراسة. وتوصي الدراسة بضرورة أن تراقب الوزارات الحكومية المعنية أنشطة الصندوق لضمان استفادة جميع الجامعات على قدم المساواة، إضافة إلى تكليف الصندوق بتبسيط الإجراءات. ويوصي الباحثون بأن ينظم الصندوق مؤتمرات لتثقيف المؤسسات بشأن الحاجة إلى التمويل وإجراءات الحصول عليه والاستفادة منه.

الكلمات الرئيسية: مداخلة الصندوق الاستئماني للتعليم العالي، موارد المكتبات، المكتبات الأكاديمية، ولاية إيمو، نيجيريا.

### Channels used to deliver agricultural information and knowledge to smallholder farmers

قنوات توصيل المعلومات والمعارف الزراعية إلى صغار الملاك الزراعيين

تومبي نديموا، كيليفا موانتيموا، فراجا نومبارو

مجلة الإفلا، 2-47

الخلاصة:

بحثت هذه الدراسة مدى فعالية القنوات المستخدمة في تقديم المعلومات والمعارف الزراعية لصغار الملاك الزراعيين في تنزانيا. تبنت الدراسة تصميمًا مستعرضًا وصفيًا وجمعت بين النهج الكمية والنوعية لجمع البيانات من 341 مستجيبًا. وتم تحليل البيانات التي جمعها الاستبيان باستخدام الإصدار 21 من الحزمة الإحصائية للعلوم الاجتماعية (SPSS)، كما تم تحليل البيانات التي جمعت خلال المقابلات باستخدام التحليل الموضوعي. وتشير النتائج إلى أن إحدى أهم المشكلات التي تقوض جهود صغار الملاك الزراعيين لزيادة إنتاجهم هي عدم توفر المعلومات والمعارف الزراعية ذات الصلة، المعدة إعدادًا جيدًا، في الوقت المناسب، وعدم التمكن من الوصول إليها. ونتيجة لذلك، يعتمد هؤلاء الملاك على القنوات غير الرسمية بصورة أساسية. وإلى جانب القنوات غير الرسمية، أضحت مجموعات المزارعين وقطع الأراضي المخصصة للمشاريع التجريبية قنوات شائعة لتقديم المعلومات والمعارف الزراعية والوصول إليها. وبغية إحداث تغيير في الإنتاج الزراعي، ينبغي بذل جهود مدروسة لتعزيز توصيل المعلومات والمعارف الزراعية.

الكلمات الرئيسية: المعارف الزراعية، المعلومات الزراعية، آلية توصيل المعلومات، صغار المزارعين، الريف، تنزانيا

### Benefits of Crowdsourcing for Libraries: A Case Study from Africa

مزايا التعهيد الجماعي للمكتبات: دراسة إفرادية من أفريقيا

رينيه لينش لينش، وجايسون سي يونج، وستانلي بواكي أشامبونج، وكريستوفر جوييساس، وجويل سام، وبري نورلاندر

مجلة الإفلا، 2-47

الخلاصة:

لا تعبأ العديد من المكتبات في جنوب الكرة الأرضية بجمع بيانات شاملة عن نفسها، مما يخلق تحديات من حيث الرؤية المحلية والدولية. لذا، يُعد التعهيد الجماعي أداة فعالة لمشاركة الجمهور في جمع البيانات المفقودة، وقد ثبت أنه يكتسي قيمة خاصة في البلدان التي لا تجمع فيها الحكومات بيانات عامة. وعلى الرغم من أن التعهيد الجماعي غالبًا ما يُستخدم في المجالات التي لديها قدر كبير من التمويل الإنمائي؛ مثل الصحة، يرى المؤلفون أن هذا النهج سيعود بفوائد جمة على مجال المكتبات أيضًا. وقدموا أدلة نوعية وكمية من 23 دولة أفريقية مشاركة في مشروع التعهيد الجماعي لرسم خرائط للمكتبات. كما برهن المؤلفون على المزايا التي يحققها فيما يتعلق بتعزيز الروابط بين أصحاب المصلحة، وبناء القدرات، وزيادة الرؤية المحلية. وتوضح هذه النتائج مدى ما تتمتع به أساليب التعهيد الجماعي من إمكانات لإنجاز مهام مثل رسم الخرائط لفائدة المكتبات والمؤسسات ذات المواقع المماثلة في جنوب الكرة الأرضية بطرق متعددة الأوجه.

الكلمات الرئيسية: التعهيد الجماعي، رسم الخرائط، بناء القدرات، الثغرات في البيانات، أفريقيا.

### Awareness, anchor and adjustment factors in the use of institutional repositories by Nigerian lecturers

عوامل الوعي والتثبيت والتعديل الانتفاع المحاضرين النيجيريين بالمستودعات المؤسسية

أليس أ. بامبغولا

مجلة الإفلا، 2-47

الخلاصة:

أُنشئت المستودعات المؤسسية في الجامعات في جميع أنحاء العالم لما تحققه من مزايا هائلة لمختلف أصحاب المصلحة، لا سيما المحاضرين. ومع ذلك، أكدت الدراسات المنشورة أن المحاضرين نادرا ما يستخدمون هذه المستودعات المؤسسية. وقد تناولت دراسات سابقة السلوكيات والتخصصات المتعلقة بهذا الأمر على سبيل المثال، ولكن لا توجد، على ما يبدو، دراسة تتناول عوامل التثبيت والتعديل لهذا السلوك. لذا، تناولت هذه الدراسة عوامل الوعي والتثبيت والتعديل بوصفها محددات لانتفاع المحاضرين بهذه المستودعات في نيجيريا. واستخدمت الدراسة تقنيات المسح الوصفي وعينات مقصودة لاختيار الجامعات التي لديها مستودعات مؤسسية تعمل على نحو جيد لمدة أربع سنوات على الأقل في وقت جمع البيانات. تم عمل استبيان لجمع بيانات من 857 محاضرا. وتوصلت الدراسة إلى أن عوامل الوعي وتثبيت السلوك وتعديله هي محددات انتفاع المحاضرين بهذه المستودعات في الجامعات النيجيرية. وأوصت بضرورة تنظيم المكتبات للمزيد من برامج التوعية، واستمرار المحاضرين في استخدام أجهزة الكمبيوتر لتحسين كفاءتهم الذاتية في هذا المجال والاستمتاع باستخدامه.

الكلمات الرئيسية: عوامل التثبيت، عوامل التعديل، الوعي بالمستودعات المؤسسية، المحاضرون، الجامعات النيجيرية، الانتفاع بالمستودعات المؤسسية.

### Privacy practices in academic libraries in Ghana: Insight into three top universities

ممارسات الخصوصية في المكتبات الأكاديمية في غانا: نظرة متعمقة إلى ثلاث جامعات كبرى

برابت كواكو أفوغلا، وكريستوفر إم أوسو أنساه، وغلوريا تاتشي دونكور، ويوجين باه يبواه

مجلة الإفلا، 2-47

الخلاصة:

يسهم هذا البحث في إثراء المعرفة المتعلقة بممارسات الخصوصية في المكتبات الأكاديمية، من خلال مقارنة بيانات دراسة استقصائية عن المكتبيين والطلاب ورعاة المكتبات في ثلاث جامعات عامة في غانا. كشف البحث الذي أجريته أن المكتبات الأكاديمية الغانية لم تتبن نهجا استباقيا لتعزيز قضايا الخصوصية، كما يفترض المكتبيون والطلاب ورعاة المكتبات بوجه عام إلى الوعي بشأن ممارسات المكتبات وسياساتها وإجراءاتها المتعلقة بالخصوصية في مؤسساتهم. إضافة إلى أنه لم يُنفذ سوى أقل القليل لتوفير التنقيف بشأن الخصوصية، وإعلام الموظفين والطلاب المستفيدين بسياسات الخصوصية للمكتبة والموردين. وقد قدمت، ضمن جملة أمور أخرى، توصيات إلى مسنولي المكتبات والجمعية المهنية للمكتبات في غانا لتطوير مجموعات أدوات من شأنها تيسير التنقيف بشأن الخصوصية ودعمها.

الكلمات الرئيسية: خصوصية رعاة المكتبة، سياسات الخصوصية، ممارسات الخصوصية، جامعة كيب كوست، جامعة التربية، وينييا، جامعة غانا

### Effects of service quality on satisfaction in Eastern University Library

أثر جودة الخدمة على رضا مستخدمي مكتبة جامعة إيسترن

دكتور طيبب. جهانجير علم

مجلة الإفلا، 2-47

الخلاصة:

قامت هذه الدراسة بتقييم آثار أداة SERVQUAL المتعددة الأبعاد لقياس رضا المستخدمين لمكتبة جامعة إيسترن، بنغلاديش. تم تكيف الأداة مع الترتيبات المحلية، وتضمنت 30 بياناً تحت خمسة أبعاد بلغت سبع نقاط على مقياس ليكر لتقييم آثار جودة خدمة المكتبة على رضا المستخدم. أُجري استبيان شمل 51 معلماً و163 طالباً جامعياً و38 طالب دراسات عليا. تم استخدام تحليل الانحدار المتعدد لحساب تأثير أبعاد SERVQUAL الخمسة، حيث استخدمت الأبعاد الخمسة كمتغيرات مستقلة ورضا المستخدم كمتغير تابع. وأنشئ نموذج الانحدار بأهمية إحصائية كبيرة ( $P < 0.001$ )، وتم شرح التباين بنسبة 56.9% في رضا المستخدم. أظهرت النتائج أن المرافق المادية للمكتبة ( $p < 0.001$ )، واستجابة الموظفين ( $p < 0.001$ ) والموارد ( $p < 0.004$ ) تؤثر تأثيراً كبيراً على رضا المستخدم. تم التأكد من موثوقية وصلاحيّة النموذج بعدة طرق إحصائية، مما يعزز إجراء

المزيد من البحوث حول جودة الخدمة وتأثيرها على رضا المستخدم في المكتبات الأكاديمية.

الكلمات الرئيسية: الآثار، جودة الخدمة، رضا المستخدم، أداة SERVQUAL، المكتبة الأكاديمية، بنغلاديش

### Role of Lebanese public school libraries in the changing information environment

دور مكتبات المدارس الحكومية اللبنانية في بيئة المعلومات المتغيرة

باتريشيا راحم، وغلاديس سعدي، نعمة خير الله

مجلة الإفلا، 2-47

الخلاصة:

ما زال الباحثون وجمعيات المكتبات تناقش وتبحث حالة المكتبات المدرسية ودورها في مختلف البلدان في جميع أنحاء العالم. وتقدم هذه الدراسة مادة تجريبية أصلية تُمكن من فهم وضع مكتبات المدارس العامة في لبنان، كما تهدف إلى تحديد الأدوار المنوطة بها، والأسباب التي تعوق تطورها. وكشفت الدراسة أن برامج المكتبات وأنشطتها تنصب على تشجيع القراءة بين الطلاب، والاستفادة المثلى من مجموعات الكتب المطبوعة المتاحة، بينما تتضاءل أهمية مجالات الأنشطة الأخرى مثل تعزيز مهارات البحث، ودعم المناهج الدراسية. أيضاً، يُعزى السياق الذي يعمل فيه عدد قليل من مكتبات المدارس الثانوية العامة اليوم إلى مبادرات مجتمعية على الصعيدين

المحلي والدولي.

الكلمات الرئيسية: لبنان، مكتبات المدارس العامة، أمناء مكتبات المدارس

### Faculty-librarian administrative structure and collaborative activities supporting teaching and research at Vietnamese universities: A qualitative study

الإدارة والأنشطة التعاونية لأمناء المكتبات وأعضاء هيئة التدريس في الجامعات الفيتنامية

تي لان نجوين، وكولثيدا تومسوك

مجلة الإفلا، 2-47

الخلاصة:

تتناول هذه المقالة الهيكل الإداري والأنشطة التعاونية لأعضاء هيئة التدريس وأمناء المكتبات في الجامعات الفيتنامية، لتقييم تأثيرها على التدريس والبحث، إضافة إلى فوائدها ومزاياها وعيوبها التعاونية. وقد تبني المؤلفون طريقة نوعية لتحديد الوضع الراهن المتعلق بالتعاون بين أعضاء هيئة التدريس وأمناء المكتبات، وأجروا 29 مقابلة معمقة مع المشاركين الرئيسيين في الجامعات الفيتنامية. وأشارت النتائج إلى أن هذا التعاون غالباً ما كان يستند إلى الظروف الشخصية للمتعاونين، وأن الاتصال والشراكات بين أمناء المكتبات تتعلق أساساً بمهنة الكلية وشخصيتها وسلوكها في الوحدات المختلفة. علاوة على ذلك، ركزت الجامعات على الأنشطة التعاونية

لدعم التدريس والبحث - وتصميم المناهج وأنشطة دعم البحث وتطوير المجموعات. وقد أسفرت هذه الدراسة عن نتائج مفيدة لأصحاب المصلحة في الجامعات لإجراء مراجعة فعالة للعلاقات التعاونية وحدودها.

الكلمات الرئيسية: التعاون بين أعضاء هيئة التدريس وأمناء المكتبات، والمكتبات الأكاديمية، وخدمات دعم المكتبات، وأنشطة تعاون المكتبات، وإدارة التعاون بين المكتبات، والجامعات الفيتنامية

### Collections and services of public libraries in West Bengal, India: An evaluative study against the backdrop of the IFLA guidelines

مجموعات وخدمات المكتبات العامة في ولاية البنغال الغربية، الهند شميم أكثر منشي، د. مهتاب علم الأنصاري

مجلة الإفلا، 47-2

الخلاصة:

تهدف هذه الدراسة إلى الوقوف على حالة المكتبات العامة على مستوى المقاطعات في ولاية البنغال الغربية، الهند. ركزت الدراسة على الموظفين وعلى الخدمات استناداً إلى خلفية سياسة تنمية

المجموعات. كما بحثت المشكلات التي يواجهها المكتبيون، واقترحت إجراءات للتغلب على هذه الصعوبات. استخدم الباحثون نهجاً مختلطاً - كمياً ونوعياً - للحصول على البيانات، لكن الوسيلة الأساسية لجمع البيانات كانت إجراء مسح باستخدام استبيان منظم، إضافة إلى إجراء مقابلات مع المكتبيين لإضفاء المزيد من الموضوعية على النتائج. وتشير النتائج إلى عدم وجود لجان اختيار لتعيين الموظفين الجدد في مكتبات عامة مختلفة: وبالتالي، تعاني المكتبات من نقص في الموظفين.

وبسبب النقص الحاد في موظفي المكتبة، لم تستكمل أي من المكتبات التي شملها المسح قاعدة بيانات الكتب في برنامج إدارة مكتبات Libsys. ولأن المكتبات العامة أنشئت لتقديم مجموعة متنوعة من الخدمات لمستخدميها فإن الخدمات هي المنتج الرئيسي لنظام المكتبات العامة. وأظهرت النتائج أن المكتبات التي شملتها الدراسة توفر أنواعاً مختلفة من الخدمات - مثل خدمات الأطفال والتوجيه المهني ومعلومات المجتمع - لإفادة مجتمعات المستخدمين الخاصة بها.

الكلمات الرئيسية: الإفلا، إرشادات خدمة المكتبات العامة، مجموعات المكتبات، خدمات المكتبات، المكتبات العامة، ولاية البنغال الغربية، الهند

### 摘要

#### Knowledge and Skills for accessing Agricultural Information by Rural Farmers

农民获取农业信息的知识和技能

乌冈纳·伯纳蒂特·菲德卢武沃(Ugonna Benedette Fidelugwuowo)

IFLA Journal, 47-2, 119-128

摘要：在发展中国家，农民是作物生产的主体。他们获得农业信息的水平源于他们所拥有的知识和技能。本文旨在明确尼日利亚东南部地区农民获取农业信息的途径，以及知识和技能水平。本文通过结构化访谈和焦点小组讨论的方式收集相关数据，并以频率统计、百分比和平均数为分析方法。调查显示，41.7%的受访者年龄在41岁至50岁之间，62.6%已婚，84.8%为基督教徒，29.8%没有接受过正规教育。这些人获取农业信息的主要途径是朋友和同事，其知识和技能水平普遍较低。本文针对农民当前的能力水平提供了一个客观的框架和衡量标准，并强调了进一步提升农民获取信息技能的必要性。

关键词：农业信息，农村农民，知识和技能，粮食安全，农民，农业生产

#### Research methodology practices among postgraduate Information Studies students in Tanzania

坦桑尼亚情报学专业研究生的研究方法实践

埃丝特·恩德杰·西查威(Esther Ndenje-Sichalwe)，埃曼纽尔·弗兰克·埃利亚(Emmanuel Frank Elia)

IFLA Journal, 47-2, 129-141

摘要：本文采用文献计量学方法调查了坦桑尼亚达累斯萨拉姆大学情报学专业研究生的研究方法实践，发现学生对研究方法概念的理解和应用有所欠缺。其中，调查为主要手段；立意抽样和便利抽样等非概率抽样方法得到广泛应用；简单随机抽样和分层抽样是使用较多的两种概率抽样方法。研究结果进一步表明，高级定性和定量数据分析方法应用不足。在实践中，这些研究成果可以帮助世界各地的图书情报学机构改进教学方法，产生具有逻辑结论的高质量论文，进而形



成新的理论。高质量的论文有助于促进期刊文章在数量和质量上的提升以及图书情报学学科的发展。因此, 这些机构有必要加强面向学生和教师的研究方法培训, 以取得能够满足多样化需求的一般性研究成果。

关键词: 数据收集方法, 图书情报学研究, 图书情报学研究方法, 研究手段, 研究设计, 研究方法, 研究范式

### **TETFund intervention in the provision of library resources in academic libraries in Nigeria**

高等教育信托基金对尼日利亚高校图书馆资源提供的干预

卡杰坦·奥尼内克(Cajetan Onyeneke), 伊胡纳亚(Ihunanya), 洛夫林·阿哈内库(Lovelyn Ahaneku)

IFLA Journal, 47—2, 142—152

摘要: 本文探讨了高等教育信托基金对尼日利亚伊莫州高校图书馆资源提供进行的干预, 文中首先提出了四个研究问题和三个零假设。本文采用了调查研究方法, 以问卷为调查工具, 调查对象包括伊莫州两所大学的105名专业和准专业图书管员。研究结果显示, 高等教育信托基金在很大程度上干预了两所大学的信息资源提供。本文建议有关政府部门监督高等教育信托基金的活动, 确保大学平等受益, 并应授权高等教育信托基金简化程序; 另外还建议该机构组织召开会议, 向大学讲解如何从本机构获取资金和补助。

关键词: 高等教育信托基金的干预, 图书馆资源, 高校图书馆, 尼日利亚伊莫州

### **Channels used to deliver agricultural information and knowledge to smallholder farmers**

小农户获取农业信息和知识的渠道

图姆·恩迪姆布瓦(Tumpe Ndimbwa), 克列法·姆万蒂瓦(Kelefa Mwantimwa), 法拉贾·恩杜巴罗(Faraja Ndumbaro)

IFLA Journal, 47—2, 153—167

摘要: 本文研究了坦桑尼亚小农户获取农业信息和知识的渠道的有效性。本文采用描述性横断设计, 结合定量和定性方法, 从341名受访者当中收集数据, 并通过SPSS软件第21版分析问卷数据、针对访谈数据进行专题分析。调查结果表明, 影响小农户增产的一个关键问题在于无法以适当的方式及时提供和获取相关农业信息和知识。因此, 大多数小农户要依靠非正式渠道。除此之外, 农民团体和示范区逐渐成为提供和获取农业信息和知识的重要途径。要提高农业生产能力, 就必须着力提供更完善的农业信息和知识渠道。

关键词: 农业知识, 农业信息, 提供机制, 小农户, 农村地区, 坦桑尼亚

### **Benefits of Crowdsourcing for Libraries: A Case Study from Africa**

众包对于图书馆的效益: 基于非洲的案例研究

蕾妮·林奇·林奇(Renee Lynch Lynch), 杰森·杨(Jason C. Young), 斯坦利·波基·阿坎蓬(Stanley Boakye-Achampong), 克里斯托弗·乔瓦萨斯(Christopher Jowaisas), 乔尔·萨姆(Joel Sam), 布里·诺兰德(Bree Norlander)

IFLA Journal, 47—2, 168—181

摘要: 发展中国家的很多图书馆尚未全面收集有关本机构的数据, 因而对于提高图书馆在当地和国际上的曝光度造成了困难。众包是让公众参与收集缺失数据的一种有效方法, 而且事实证明, 在政府几乎没有收集公共数据的国家, 众包尤其有效。众包通常用于卫生等资金需求较高的领域, 但本文作者认为, 这种方法也能给图书馆领域带来多种效益。本文收集了23个非洲国家的定性和定量数据, 这些国家共同参与了一个绘制图书馆地图的众包项目。研究结果发现, 众包给图书馆带来的效益包括加深利益相关者之间的联系、增强能力建设和提高图书馆在当地的曝光度。这些发现表明, 众包在诸如绘图等工作中有较大潜力, 并能以多种方式造福于发展中国家的图书馆和类似机构。

关键词：众包，绘图，能力建设，数据鸿沟，非洲

### **Awareness, anchor and adjustment factors in the use of institutional repositories by Nigerian lecturers**

尼日利亚大学教师对于利用机构内部书库的意识以及锚定与调整因素

艾丽丝·巴米博拉(Alice A. Bamigbola)

IFLA Journal, 47—2, 182—195

摘要：全球各国的大学均建立了自己的书库，它们给利益相关者、特别是教师带来了巨大的好处。然而，现有文献表明，大学教师很少使用机构内部的书库。例如，有人对教师的态度和行为进行了研究，但似乎没有涉及锚定和调整因素。因此，本文探究了尼日利亚教师使用机构内部书库的决定因素，包括意识以及锚定和调整因素。本文采用描述性调查和立意抽样方法，以拥有正常运转的机构书库至少四年的大学为数据采集对象；另外以问卷的形式对857名教师进行调研。研究表明，意识以及锚定和调整因素是尼日利亚大学教师使用机构内部书库的决定因素。本文建议，图书馆应组织开展更多活动来提高教师的意识，同时教师应更多地使用计算机，从而提高计算机自我效能感和熟练度。

关键词：锚定因素，调整因素，对机构内部书库的意识，教师，尼日利亚大学，对机构内部书库的使用

### **Privacy practices in academic libraries in Ghana: Insight into three top universities**

加纳高校图书馆的隐私实践：针对三所顶级大学的研究

布莱特·夸库·阿乌格拉(Bright Kwaku Avuglah)，克里斯托弗·奥乌苏—安萨(Christopher M. Owusu-Ansah)，格洛丽亚·塔奇·唐科尔(Gloria Tachie-Donkor)，尤金·巴阿·耶波阿(Eugene Baah Yeboah)

IFLA Journal, 47—2, 196—208

摘要：本文对比了加纳三所顶级公立大学的图书馆员及学生用户的调查数据，为高校图书馆的隐私实践研究做出了贡献。研究结果显示，加纳的高校图书馆对隐私问题的宣传不够充分。图书馆员及学生用户对于本学校图书馆中有关隐私的实践、政策和程序普遍缺乏认识。此外，这几所大学在向图书馆员及学生用户提供隐私教育以及传达图书馆和书商的隐私政策方面几乎没有作为。本文建议加纳的图书馆负责人和图书馆专业协会开发相关工具包，推动隐私教育和宣传。

关键词：用户隐私，隐私政策，隐私实践，海岸角大学，温尼巴教育大学，加纳大学

### **Effects of service quality on satisfaction in Eastern University Library**

东部大学图书馆的服务质量对用户满意度的影响

贾汉吉尔·阿拉姆(Md. Jahangir Alam)

IFLA Journal, 47—2, 209—222

摘要：本文评估了孟加拉国东部大学图书馆服务质量(SERVQUAL)模型的各个维度对用户满意度的影响。研究采用改进的SERVQUAL模型来评估本地机构，同时设计七级李克特量表问卷，其中包含30项陈述，每项陈述下各有5个选项，并面向51名教师、163名本科生和38名研究生发放了调查问卷。本文以SERVQUAL五个维度为自变量，以用户满意度为因变量，通过多元回归分析法计算五个维度的影响。回归模型显著( $p < 0.001$ )，并解释了56.9%的用户满意度变异。结果表明，图书馆的有形设施( $p < 0.001$ )、工作人员的回复能力( $p < 0.001$ )和资源( $p < 0.004$ )对用户满意度产生了显著影响。多种统计方法验证了模型的信度和效度，为进一步研究高校图书馆服务质量及其对用户满意度的影响提供了依据。

关键词：影响，SERVQUAL模型，用户满意度，服务质量，高校图书馆，孟加拉国

### **Role of Lebanese public school libraries in the changing information environment**

黎巴嫩公立学校图书馆在变革的信息环境中的职责

帕特里夏·拉赫梅(Patricia Rahme), 格拉迪斯·萨阿德(Gladys Saade), 诺玛·凯拉拉(Nohma Khayrallah)

IFLA Journal, 47—2, 223—235

摘要: 研究人员和图书馆协会不断思考和研究全球各国学校图书馆的地位和作用。本文提供了原始的实证材料, 有助于深入了解黎巴嫩公立学校图书馆的状况, 同时旨在明确这些图书馆的职责, 并找出阻碍其发展的原因。研究表明, 图书馆活动的重点是促进学生阅读, 充分利用现有的纸质馆藏, 但其他领域的活动(如提升研究能力和为教学活动提供支持)还不够充分。此外, 由于地方和国际社会的倡议不足, 目前有效运转的公立中学图书馆非常有限。

关键词: 黎巴嫩, 公立学校图书馆, 学校图书馆员

### **Faculty-librarian administrative structure and collaborative activities supporting teaching and research at Vietnamese universities: A qualitative study**

越南大学教职人员与图书馆员的合作管理及开展的活动

阮世兰(Thi Lan Nguyen), 库尔希达·图阿姆苏克(Kulthida Tuamsuk)

IFLA Journal, 47—2, 236—249

摘要: 本文介绍了越南大学的教职人员与图书馆员之间的管理结构与合作活动, 并评估了这些合作对教学和研究的影响, 及其效益和优缺点。作者采用定性的方法揭示了教职人员与图书馆员之间合作的现状, 并针对越南大学的主要参与者开展了29次深入采访。研究结果表明, 这些合作往

往以合作者的个人情况为基础, 而图书馆员的联络关系主要与不同单位教职人员的职业、个性和态度有关。此外, 大学注重通过合作为教学和研究提供支持, 包括教学大纲设计、研究支持活动和馆藏开发。本文的研究结果将有助于大学的利益相关方检验合作关系的有效性和局限性。

关键词: 教职人员与图书馆员的合作, 高校图书馆, 图书馆支持服务, 图书馆合作活动, 图书馆合作管理, 越南大学

### **Collections and services of public libraries in West Bengal, India: An evaluative study against the backdrop of the IFLA guidelines**

印度西孟加拉邦公共图书馆的馆藏与服务

沙米姆·阿克塔·门希(Shamim Aktar Munshi), 梅塔布·阿拉姆·安萨里(Mehtab Alam Ansari Dr.)

IFLA Journal, 47—2, 250—262

摘要: 本文旨在探讨印度西孟加拉邦区级公共图书馆的现况。研究的重点是馆藏开发政策背景下的人员和服务。本文还探究了图书馆员面临的问题, 并提出了解决这些问题的方法。研究人员在收集数据方面采用了混合研究方法, 包括定量和定性方法, 但主要手段是结构化调查问卷。此外, 为了获得更多的主观观点, 作者对图书馆员进行了访谈。调查结果显示, 公共图书馆没有成立负责招聘新职员的遴选委员会, 导致图书馆始终存在人手短缺的问题。由于工作人员严重不足, 所有受访图书馆的Libsys图书馆管理系统中都没有建立完整的图书数据库。公共图书馆成立的宗旨是为了向用户提供各种服务, 因此服务是公共图书馆系统的主要产品。调查结果显示, 受访图书馆提供多种类型的服务, 如少儿服务、职业指导和社区信息服务, 以造福不同的用户群体。

关键词: 国际图联, 公共图书馆服务指南, 图书馆馆藏, 图书馆服务, 公共图书馆, 印度西孟加拉邦

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Ugonna Benedette Fidelugwuowo

IFLA Journal, 47–2, 119–128

#### Résumé:

Dans tous les types d'économie en développement, les petits paysans composent la majeure partie des producteurs agricoles. Leur degré d'accès aux informations agricoles dépend des connaissances et compétences à leur disposition. Cet article vise à identifier les sources des informations agricoles et le niveau de connaissances et de compétences dont les petits paysans du Sud-Est du Nigeria disposent pour accéder à de telles informations. Un programme structuré d'entretiens et des groupes de discussion ont été utilisés pour rassembler les données utiles. La méthode d'analyse s'est basée sur des décomptes des occurrences, des pourcentages et des ressources. L'étude a montré que 41,7% des personnes interrogées avaient entre 41 et 50 ans, 62,6% étaient mariées, 84,8% de confession chrétienne et 29,8% ne disposaient pas d'une formation scolaire. Les amis et collègues constituent la principale source des informations agricoles, alors que les petits paysans disposent généralement d'un faible niveau de connaissances et de compétences pour accéder aux informations agricoles. Cette étude fournit un cadre objectif et mesure les compétences existantes, afin d'identifier les besoins d'acquérir des compétences supplémentaires.

Mots-clés: informations agricoles, petits paysans, connaissances et compétences, sécurité alimentaire, fermiers, production agricole

### **Research methodology practices among postgraduate Information Studies students in Tanzania**

#### **Pratiques en matière de méthodes de recherche des étudiants de 3<sup>e</sup> cycle en Sciences de l'Information en Tanzanie**

Esther Ndenje-Sichalwe, Emmanuel Frank Elia

IFLA Journal, 47–2, 129–141

#### Résumé:

Cette étude bibliométrique porte sur les pratiques en matière de méthodes de recherche des étudiants en

maîtrise en Sciences de l'Information (Master of Arts in Information Studies - MAIS) à l'université de Dar es Salaam en Tanzanie. L'étude montre que les étudiants ont une compréhension insuffisante des concepts de méthodologie de recherche et ne les appliquent pas assez. La recherche par sondage prédomine, les méthodes d'échantillonnage dirigé et empirique de convenance étant largement utilisées. Les méthodes probabilistes d'échantillonnage aléatoire simple et d'échantillonnage stratifié sont les plus utilisées. L'étude constate également que des analyses qualitatives et quantitatives en profondeur des données sont trop peu appliquées. Dans la pratique, les résultats de l'étude peuvent aider les institutions de Bibliothéconomie et Sciences de l'information à travers le monde à améliorer les méthodes de recherche, afin de produire des thèses de qualité proposant des conclusions logiques pouvant permettre de développer de nouvelles théories. De telles thèses entraînent une amélioration de la quantité et de la qualité des articles des revues spécialisées et le développement de la discipline Bibliothéconomie et Sciences de l'Information. Par conséquent, il est nécessaire de renforcer la formation aux méthodes de recherche proposée aux étudiants et maîtres de conférences afin de générer des résultats généralisables qui répondent à divers besoins.

Mots-clés: méthodes de collecte des données, recherche en Bibliothéconomie et Sciences de l'Information, méthodologie de recherche en Bibliothéconomie et Sciences de l'Information, approche de recherche, conception de la recherche, méthodes de recherche, paradigme de recherche

### **TETFund intervention in the provision of library resources in academic libraries in Nigeria**

#### **Intervention de TETFund pour procurer des ressources bibliothécaires aux bibliothèques universitaires au Nigeria**

Cajetan Onyeneke, Ihunanya, Lovelyn Ahaneku

IFLA Journal, 47–2, 142–152

#### Résumé:

Cette étude porte sur l'intervention de TETFund pour procurer des ressources bibliothécaires aux bibliothèques universitaires de l'État d'Imo au Nigeria. Elle s'est basée sur quatre sujets de recherche et trois hypothèses nulles. L'étude a adopté un concept de recherche par sondage avec un questionnaire comme outil de recherche. La population cible de l'étude était constituée de 105 professionnels et paraprofessionnels

membres du personnel bibliothécaire de deux universités de l'État d'Imo. Les conclusions montrent que TETFund intervient dans une très large mesure pour fournir des ressources documentaires aux deux universités étudiées. L'étude recommande que les ministères gouvernementaux concernés contrôlent les activités de TETFund afin d'assurer que les universités en profitent de façon égale, et que TETFund soit mandaté pour simplifier la procédure. Les chercheurs recommandent aussi que TETFund organise des conférences pour former les institutions aux besoins et aux procédures d'accès au financement, pour qu'elles puissent ainsi tirer parti de TETFund.

Mots-clés: Intervention de TETFund, ressources bibliothécaires, bibliothèques universitaires, État d'Imo, Nigeria

**Channels used to deliver agricultural information and knowledge to smallholder farmers Canaux utilisés pour communiquer des informations et connaissances agricoles aux petits agriculteurs**

**Tumpe Ndimbwa, Kelefa Mwantimwa, Faraja Ndumbaro**

IFLA Journal, 47–2, 153–167

Résumé:

Cette étude examine l'efficacité des canaux utilisés pour communiquer des informations et des connaissances agricoles aux petits agriculteurs en Tanzanie. Une analyse transversale descriptive ainsi que des approches quantitatives et qualitatives ont été utilisées pour rassembler des données auprès de 341 personnes interrogées. Alors que les données collectées par le biais d'un questionnaire ont été analysées en utilisant le logiciel SPSS (Statistical Product and Service Solutions) version 21, les données collectées par le biais d'entretiens ont fait l'objet d'une analyse thématique. Les résultats suggèrent que l'un des problèmes majeurs qui sape les efforts des petits agriculteurs voulant augmenter leur production, c'est le fait de ne pas pouvoir disposer de façon appropriée et en temps voulu d'informations et de connaissances agricoles adaptées. En conséquence, la plupart de ces petits exploitants dépendent de canaux informels. À côté de ces canaux informels, des groupes de fermiers et des parcelles de démonstration deviennent des moyens populaires de fournir des informations et connaissances agricoles et d'y accéder. Pour faire la

différence en matière de production agricole, il faut des efforts délibérés en vue d'améliorer la communication d'informations et de connaissances agricoles.

Mots-clés: Connaissances agricoles, informations agricoles, mécanisme de communication, petits agriculteurs, ruralité, Tanzanie

**Benefits of Crowdsourcing for Libraries: A Case Study from Africa**

**Les avantages de la production participative pour les bibliothèques: une étude de cas en Afrique**

Renee Lynch Lynch, Jason C. Young, Stanley Boakye-Achampong, Christopher Jowaisas, Joel Sam, Bree Norlander

IFLA Journal, 47–2, 168–181

Résumé:

Dans l'hémisphère sud, de nombreuses bibliothèques ne rassemblent par des données complètes les concernant, ce qui entraîne des problèmes en termes de visibilité locale et internationale. La production participative ou crowdsourcing est un outil efficace qui invite le public à rassembler les données manquantes. Elle s'est avérée particulièrement précieuse dans des pays où les gouvernements rassemblent peu de données publiques. Alors que la production participative est souvent utilisée dans des domaines bénéficiant d'un financement élevé pour le développement, la santé par exemple, les auteurs pensent que cette approche pourrait aussi avoir de nombreux avantages pour la discipline bibliothécaire. Ils présentent des preuves qualitatives et quantitatives provenant de 23 pays africains impliqués dans un projet de production participative ayant pour but de cartographier les bibliothèques. Les auteurs constatent des avantages en termes d'augmentation des relations entre les parties prenantes, de développement des compétences et de visibilité locale accrue. Ces constatations démontrent le potentiel des approches de production participative pour des tâches telles que la cartographie, ce qui peut profiter de multiples façons aux bibliothèques et à des institutions de même type dans l'hémisphère sud.

Mots-clés: production participative, crowdsourcing, cartographie, développement des compétences, manques de données, Afrique

### **Awareness, anchor and adjustment factors in the use of institutional repositories by Nigerian lecturers**

#### **Facteurs de sensibilisation, d'enracinement et d'ajustement dans le cadre de l'utilisation des dépôts institutionnels par les maîtres de conférences nigériens**

Alice A. Bamigbola

IFLA Journal, 47–2, 182–195

#### Résumé:

Les dépôts institutionnels ont été mis en place dans des universités du monde entier en raison des avantages considérables qu'ils représentent pour diverses parties prenantes, en particulier les maîtres de conférences. Cependant, les documents disponibles confirment que ceux-ci utilisent trop peu ces dépôts. Des études antérieures s'étaient notamment intéressées aux comportements et aux disciplines, mais il ne semble y avoir eu aucune étude sur les facteurs d'enracinement et d'ajustement. Par conséquent, la présente étude examine les facteurs de sensibilisation, d'enracinement et d'ajustement en tant que facteurs déterminants pour l'utilisation des dépôts institutionnels par les maîtres de conférences au Nigeria. Une enquête descriptive et une technique d'échantillonnage intentionnel ont été utilisées pour sélectionner des universités qui disposaient de dépôts institutionnels fonctionnels depuis au moins quatre ans au moment de rassembler les données. Un questionnaire a servi à collecter des données auprès de 857 maîtres de conférences. L'étude révèle que les facteurs de sensibilisation, d'enracinement et d'ajustement déterminent l'usage des dépôts institutionnels par les maîtres de conférences dans les universités nigérianes. L'étude recommande que les bibliothèques organisent plus de programmes de sensibilisation et que les maîtres de conférences travaillent constamment sur ordinateur afin de stimuler leur auto-efficacité informatique et un usage ludique de l'ordinateur.

Mots-clés: facteurs d'enracinement, facteurs d'ajustement, sensibilisation aux dépôts institutionnels, maîtres de conférences, universités nigérianes, utilisation des dépôts institutionnels

### **Privacy practices in academic libraries in Ghana: Insight into three top universities**

#### **Pratiques en matière de protection de la vie privée au sein des bibliothèques universitaires au Ghana: l'exemple de trois universités de premier plan**

Bright Kwaku Avuglah, Christopher M. Owusu-Ansah, Gloria Tachie-Donkor, Eugene Baah Yeboah  
IFLA Journal, 47–2, 196–208

#### Résumé:

Cette étude apporte une contribution à ce que l'on sait des pratiques de protection de la vie privée au sein des bibliothèques universitaires, en comparant les données de recherche des bibliothécaires et de leur clientèle étudiante dans trois universités publiques ghanéennes de premier plan. Notre étude montre que les bibliothèques universitaires ghanéennes n'ont pas adopté une attitude proactive pour promouvoir les aspects de protection de la vie privée et de confidentialité. Les bibliothécaires et leur clientèle étudiante sont globalement peu conscients des pratiques, politiques et procédures bibliothécaires en rapport avec la protection de la vie privée dans leurs institutions. Par ailleurs, très peu de choses ont été faites pour proposer une formation à cette protection et communiquer au personnel et à la clientèle étudiante les politiques des bibliothèques et des fournisseurs en la matière. Des recommandations sont entre autres faites aux dirigeants des bibliothèques et à l'association professionnelle des bibliothécaires au Ghana afin de développer des outils qui puissent faciliter la formation à la protection et à la défense de la vie privée.

Mots-clés: Respect de la vie privée des clients, politiques de protection de la vie privée, politiques de confidentialité, pratiques de protection de la vie privée, Université de Cape Coast, Université de l'Éducation de Winneba, Université du Ghana

### **Effects of service quality on satisfaction in Eastern University Library**

#### **Les effets de la qualité des services sur la satisfaction à la bibliothèque de la Eastern University**

Md. Jahangir Alam

IFLA Journal, 47–2, 209–222

#### Résumé:

Cette étude examine les effets des dimensions de l'outil SERVQUAL sur la satisfaction des utilisateurs de la bibliothèque de la Eastern University au Bangladesh. L'outil SERVQUAL a été adapté afin de correspondre aux dispositions locales et comprenait 30 déclarations réparties dans cinq dimensions avec une échelle de Likert à 7 points, utilisées pour évaluer les effets de la qualité des services bibliothécaires sur la satisfaction des utilisateurs. Une enquête a été menée

auprès de 51 professeurs, 163 étudiants de premier cycle et 38 étudiants de 3<sup>e</sup> cycle. Les effets de 5 dimensions SERVQUAL ont été calculés par le biais d'une analyse de régression multiple, dans laquelle les 5 dimensions ont été utilisées comme des variables indépendantes et la satisfaction des utilisateurs comme une variable dépendante. Le modèle de régression a été établi comme étant significatif ( $p < 0.001$ ), expliquant la variation de 56,9% dans la satisfaction des utilisateurs. Les résultats montrent que des services concrets ( $p < 0.001$ ), la réceptivité du personnel ( $p < 0.001$ ) et les ressources ( $p < 0.004$ ) de la bibliothèque influencent de façon significative la satisfaction des utilisateurs. Plusieurs méthodes statistiques viennent confirmer la fiabilité et la validité de ce modèle, ce qui devrait inciter à poursuivre les recherches en matière de qualité des services et son impact sur la satisfaction des utilisateurs dans les bibliothèques universitaires.

Mots-clés: effets, qualité des services, satisfaction des utilisateurs, SERVQUAL, bibliothèque universitaire, Bangladesh

#### **Role of Lebanese public school libraries in the changing information environment**

#### **Le rôle des bibliothèques scolaires publiques libanaises dans un environnement d'information en mutation**

Patricia Rahme, Gladys Saade, Nohma Khayrallah

IFLA Journal, 47–2, 223–235

Résumé:

Les chercheurs et les associations bibliothécaires remettent en question en permanence l'état et le rôle des bibliothèques scolaires dans différents pays à travers le monde et s'en préoccupent. Cette étude fournit un matériel empirique original pour se faire une idée de la situation dans les bibliothèques scolaires publiques au Liban et vise à déterminer les rôles qui leur sont assignés et les motifs qui empêchent leur développement. Elle montre également que l'objectif principal des programmes et activités bibliothécaires est de promouvoir la lecture auprès des jeunes scolarisés, en tirant le meilleur parti des collections existantes de livres imprimés, alors que d'autres zones d'activités telles que la promotion des compétences de recherche et le soutien des programmes enseignés ne sont pratiquement pas utilisées. De plus, le contexte dans lequel un petit nombre de bibliothèques des écoles secondaires peuvent fonctionner actuellement est le

fait d'initiatives des communautés locales et internationales.

Mots-clés: Liban, bibliothèques des écoles publiques, bibliothécaires scolaires

#### **Faculty–librarian administrative structure and collaborative activities supporting teaching and research at Vietnamese universities: A qualitative study**

#### **Administration et activités collaboratives du corps enseignant et des bibliothécaires dans des universités vietnamiennes**

Thi Lan Nguyen, Kulthida Tuamsuk

IFLA Journal, 47–2, 236–249

Résumé:

Cet article évoque la structure administrative et les activités collaboratives du corps enseignant et des bibliothécaires au sein d'universités vietnamiennes, afin d'évaluer leur impact sur l'enseignement et la recherche ainsi que leurs bénéfices, avantages et inconvénients sur le plan de la collaboration. Les auteurs ont utilisé une méthode qualitative pour déterminer l'état actuel de la collaboration entre le corps enseignant et les bibliothécaires, et ont mené 29 entretiens poussés avec des participants essentiels dans les universités vietnamiennes. Les résultats indiquent qu'une telle collaboration est souvent basée sur les circonstances personnelles des collaborateurs et que les partenariats avec les bibliothécaires sont fondamentalement liés à la profession, la personnalité et les attitudes des membres du corps enseignant dans différentes unités. En outre, les universités se concentrent sur des activités en collaboration afin de soutenir l'enseignement et la recherche – en concevant des programmes d'études, des activités de soutien à la recherche et le développement des collections. Les parties prenantes dans les universités vont pouvoir utiliser les résultats de cette étude pour déterminer l'efficacité et les limites des relations collaboratives.

Mots-clés: collaboration entre corps enseignant et bibliothécaires, bibliothèques universitaires, services de soutien bibliothécaires, activités bibliothécaires collaboratives, administration collaborative des bibliothèques, universités vietnamiennes

#### **Collections and services of public libraries in West Bengal, India: An evaluative study against the backdrop of the IFLA guidelines**

### **Collection et services des bibliothèques publiques au Bengale-Occidental en Inde**

Shamim Aktar Munshi, Mehtab Alam Ansari Dr.

IFLA Journal, 47–2, 250–262

Résumé:

Cette étude a pour but d'examiner le statut des bibliothèques publiques au niveau des districts du Bengale-Occidental en Inde. L'étude porte sur le personnel aussi bien que sur les services, sur fond de politique de développement des collections. Elle examine aussi les problèmes auxquels sont confrontés les bibliothécaires et suggère des mesures pour les surmonter. Les chercheurs ont appliqué des méthodes mixtes – quantitatives et qualitatives – pour se procurer les données. Cependant, l'outil essentiel de collecte des données a été une méthode d'enquête basée sur un questionnaire structuré. De plus, des entretiens ont été menés avec les bibliothécaires afin d'ajouter plus de subjectivité aux résultats. Les résultats suggèrent qu'il n'y a eu aucun comité de sélection pour recruter de nouveaux

employés dans différentes bibliothèques publiques. Par conséquent, les bibliothèques souffrent d'une pénurie de personnel. En raison de cette grave pénurie de personnel bibliothécaire, les bases de données concernant les livres n'ont pas été complétées dans le logiciel de gestion bibliothécaire Libsy, et ce dans aucune des bibliothèques examinées. Les bibliothèques publiques ont été fondées afin de proposer des services très divers à leurs utilisateurs. Par conséquent, les services sont le principal produit du système des bibliothèques publiques. Les résultats de l'étude montrent que différents types de services – par exemple services d'information destinés aux enfants, à l'orientation professionnelle et à la communauté – sont fournis par les bibliothèques examinées pour profiter à leurs communautés d'utilisateurs.

Mots-clés: IFLA, directives pour les services des bibliothèques publiques, collections bibliothécaires, services bibliothécaires, bibliothèques publiques, Bengale-Occidental, Inde

### **Zusammenfassung**

#### **Knowledge and Skills for accessing Agricultural Information by Rural Farmers**

#### **Kenntnisse und Fertigkeiten für den Zugang zu landwirtschaftlichen Informationen durch Kleinbauern**

Ugonna Benedette Fidelugwuowo

IFLA Journal, 47–2, 119–128

Zusammenfassung:

Kleinbauern stellen in jeder sich entwickelnden Volkswirtschaft die Mehrheit der landwirtschaftlichen Erzeuger dar. Ihr Zugang zu landwirtschaftlichen Informationen gründet auf den Kenntnissen und Fertigkeiten, die sie besitzen. Dieser Artikel zielt darauf ab, die Quellen für landwirtschaftliche Informationen und das Niveau der Kenntnisse und Fertigkeiten von Kleinbauern für den Zugang zu solchen Informationen im Südosten Nigerias zu identifizieren. Für die Sammlung relevanter Daten wurden ein strukturierter Interviewplan und Fokusgruppendifkussionen verwendet. Die Analysemethode besteht aus Häufigkeitsauszählungen, Prozentsätzen und Mittelwerten. Die Studie zeigt auf, dass 41,7% der Befragten zwischen 41 und 50 Jahren alt waren; 62,6% waren verheiratet, 84,8% Christen und 29,8% hatten keine formale Ausbildung. Die wichtigste Quelle für landwirtschaftliche

Informationen waren Freunde und Arbeitskollegen, während die Kenntnisse und Fähigkeiten, die sie für den Zugang zu landwirtschaftlichen Informationen besaßen, im Allgemeinen gering waren. Die Arbeit liefert einen objektiven Rahmen und ein Maß für die vorhandenen Kompetenzen und stellt den Bedarf an weiterem Kompetenzerwerb fest.

Schlüsselbegriffe: Landwirtschaftliche Informationen, Kleinbauern, Kenntnisse und Fertigkeiten, Ernährungssicherheit, Landwirte, landwirtschaftliche Produktion

#### **Research methodology practices among postgraduate Information Studies students in Tanzania Praktiken der Forschungsmethodik unter Postgraduierten der Informationswissenschaft in Tansania**

Esther Ndenje-Sichalwe, Emmanuel Frank Elia

IFLA Journal, 47–2, 129–141

Zusammenfassung:

Diese bibliometrische Studie untersucht die Praktiken der Forschungsmethodik von Studierenden der Informationswissenschaft (MAIS) an der Universität von Dar es Salaam, Tansania. Die Studie stellte fest, dass die Studierenden die Konzepte der Forschungsmethodik nur unzureichend verstehen und anwenden.



Vorherrschendes Verfahren war die Umfrageforschung, wobei die Methoden der gezielten und zufälligen Nicht-Wahrscheinlichkeitsstichproben ausgiebig genutzt wurden. Einfache Zufallsstichproben und geschichtete Stichproben waren die am häufigsten verwendeten Wahrscheinlichkeitsstichprobenverfahren. Die Ergebnisse zeigen außerdem, dass fortgeschrittene qualitative und quantitative Datenanalysen nur unzureichend angewendet wurden. In der Praxis können die Ergebnisse der Studie bibliotheks- und informationswissenschaftlichen Institutionen rund um den Globus helfen, die Forschungsmethodik in der Lehre zu verbessern, um qualitativ hochwertige Abschlussarbeiten mit logischen Schlussfolgerungen zu produzieren, die neue Theorien entwickeln können. Gute Abschlussarbeiten können sich in einer erhöhten Quantität und Qualität von Zeitschriftenartikeln und einem Wachstum der Disziplin Bibliotheks- und Informationswissenschaft niederschlagen. Es besteht also die Notwendigkeit, die Ausbildung von Studierenden und Lehrbeauftragten im Bereich Forschungsmethodik zu verstärken, um verallgemeinerbare Ergebnisse zu generieren, die den unterschiedlichen Bedürfnissen gerecht werden.

Schlüsselbegriffe: Datenerhebungsmethoden, LIS-Forschung, LIS-Forschungsmethodik, Forschungsansatz, Forschungsdesign, Forschungsmethoden, Forschungsparadigma

### **TETFund intervention in the provision of library resources in academic libraries in Nigeria**

#### **Intervention des TETFunds bei der Bereitstellung von Bibliotheksressourcen in Universitätsbibliotheken in Nigeria**

Cajetan Onyeneke, Ihunanya, Lovelyn Ahaneku

IFLA Journal, 47–2, 142–152

Zusammenfassung:

Diese Studie untersuchte die Intervention des TETFunds bei der Bereitstellung von Bibliotheksressourcen in Universitätsbibliotheken im Bundesstaat Imo in Nigeria. Leitend dabei waren vier Forschungsfragen und drei Nullhypothesen. Als Forschungsinstrument wählte die Studie ein Umfrageforschungsdesign mit einem Fragebogen. Die Grundgesamtheit der Studie waren 105 professionelle und para-professionelle Bibliotheksmitarbeiter an zwei Universitäten im Bundesstaat Imo. Die Ergebnisse zeigen, dass der TETFund in hohem Maße in die Bereitstellung von Informationsressourcen an den beiden untersuchten Universitäten eingreift. Fazit der Studie ist die

Empfehlung an die betroffenen Regierungsministerien, die Aktivitäten des TETFund zu überwachen, um sicherzustellen, dass die Universitäten gleichermaßen profitieren. Außerdem sollte der TETFund mit der Vereinfachung seiner Prozesse beauftragt werden. Die Forscher halten es ferner für ratsam, dass der TETFund Konferenzen zur Information der Institutionen über die Notwendigkeit und die Prozesse organisiert, wie sie Zugang zur Finanzierung erhalten und vom TETFund profitieren können.

Schlüsselbegriffe: TETFund-Intervention, Bibliotheksressourcen, wissenschaftliche Bibliotheken, Bundesstaat Imo, Nigeria

### **Channels used to deliver agricultural information and knowledge to smallholder farmers**

#### **Kanäle zur Vermittlung landwirtschaftlicher Informationen und Wissen an Kleinbauern**

Tumpe Ndimbwa, Kelefa Mwantimwa, Faraja Ndumbaro

IFLA Journal, 47–2, 153–167

Zusammenfassung:

Diese Studie untersuchte die Effektivität der zur Vermittlung landwirtschaftlicher Informationen und Kenntnisse an Kleinbauern genutzten Kanäle in Tansania. Anhand eines deskriptiven Querschnittsdesigns wurden neben quantitativen und qualitativen Ansätzen Daten von 341 Befragten gesammelt. Während die durch den Fragebogen gesammelten Daten mit Hilfe von Statistical Product and Service Solutions (SPSS) Version 21 analysiert wurden, erfolgte die Analyse der durch das Interview gesammelten Daten anhand eines thematischen Ansatzes. Die Ergebnisse deuten darauf hin, dass die Bereitstellung von und der Zugang zu angemessen gebündelten, zeitnahen und relevanten landwirtschaftlichen Informationen und Kenntnissen eines der kritischen Probleme ist, die den Bemühungen der Kleinbauern bei der Steigerung ihrer Produktion im Wege stehen. Infolgedessen sind die meisten Kleinbauern hauptsächlich auf informelle Kanäle angewiesen. Neben informellen Kanälen werden Bauerngruppen und Demonstrationsflächen zu beliebten Kanälen, um landwirtschaftliche Informationen und Kenntnisse zu vermitteln und zugänglich zu machen. Zur Erhöhung der landwirtschaftlichen Produktion sollten gezielte Anstrengungen unternommen werden, um die Bereitstellung von landwirtschaftlichen Informationen und Kenntnissen zu verbessern.

Schlüsselbegriffe: Landwirtschaftliche Kenntnisse, landwirtschaftliche Informationen, Bereitstellungsmechanismus, Kleinbauern, ländlich, Tansania

### **Benefits of Crowdsourcing for Libraries: A Case Study from Africa**

#### **Vorteile von Crowdsourcing für Bibliotheken: Eine Fallstudie aus Afrika**

Renee Lynch Lynch, Jason C. Young, Stanley Boakye-Achampong, Christopher Jowaisas, Joel Sam, Bree Norlander

IFLA Journal, 47–2, 168–181

Zusammenfassung:

Viele Bibliotheken in Entwicklungs- und Schwellenländern erheben keine umfassenden Daten über sich selbst. Dies führt zu Herausforderungen in Bezug auf die lokale und internationale Sichtbarkeit. Crowdsourcing ist ein effektives Instrument, das die Öffentlichkeit einbezieht, um fehlende Daten zu sammeln und das sich als besonders wertvoll in Ländern erwiesen hat, in denen Regierungen wenig öffentliche Daten sammeln. Während Crowdsourcing häufig in Bereichen eingesetzt wird, die viel Entwicklungshilfe erhalten, wie z. B. im Gesundheitswesen, glauben die Autoren, dass dieser Ansatz auch für den Bibliotheksbereich viele Vorteile hätte. Sie präsentieren qualitative und quantitative Erkenntnisse aus 23 afrikanischen Ländern, die an einem Crowdsourcing-Projekt zur Abbildung von Bibliotheken beteiligt waren. Die Autoren sehen Vorteile in Form verstärkter Verbindungen zwischen den Akteuren, dem Aufbau von Kapazitäten und einer erhöhten lokalen Sichtbarkeit. Diese Ergebnisse zeigen das Potenzial von Crowdsourcing-Ansätzen für Aufgaben wie das Mapping, von denen Bibliotheken und ähnlich positionierte Institutionen in Ländern des globalen Südens auf vielfältige Weise profitieren können.

Schlüsselbegriffe: Crowdsourcing, Mapping, Aufbau von Kapazitäten, Datenlücken, Afrika

### **Awareness, anchor and adjustment factors in the use of institutional repositories by Nigerian lecturers**

#### **Bewusstsein, Verankerung und Anpassungsfaktoren zur Nutzung von institutionellen Repositorien durch nigerianische Dozenten**

Alice A. Bamigbola

IFLA Journal, 47–2, 182–195

Zusammenfassung:

Institutionelle Repositorien wurden in Universitäten weltweit aufgrund ihres immensen Nutzens für verschiedene Interessengruppen, insbesondere für Dozenten, eingerichtet. Die Literatur hat jedoch bestätigt, dass institutionelle Repositorien von Dozenten wenig genutzt werden. Bisherige Studien haben beispielsweise Einstellungen und Disziplinen untersucht, eine Studie über Anker- und Anpassungsfaktoren scheint es allerdings bislang nicht zu geben. Diese Studie untersuchte daher das Bewusstsein und die Anker- und Anpassungsfaktoren als Determinanten für die Nutzung institutioneller Repositorien durch Dozenten in Nigeria. Zur Auswahl der Universitäten, die zum Zeitpunkt der Datenerhebung seit mindestens vier Jahren über funktionierende institutionelle Repositorien verfügten, wurden eine deskriptive Umfrage und eine zielgerichtete Stichprobentechnik verwendet. Mit einem Fragebogen wurden Daten von 857 Dozenten erhoben. Die Studie zeigt, dass Bewusstsein sowie Anker- und Anpassungsfaktoren Determinanten für die Nutzung von institutionellen Repositorien durch Dozenten an nigerianischen Universitäten sind. Es sollten daher nach Auffassung der Studie mehr Sensibilisierungsprogramme von den Bibliotheken organisiert werden, außerdem sollten die Dozenten regelmäßig den Computer nutzen, um ihre Computerselbstwirksamkeit und Computerspielfähigkeit zu verbessern.

Schlüsselbegriffe: Ankerfaktoren, Anpassungsfaktoren, Bewusstsein für institutionelle Repositorien, Dozenten, nigerianische Universitäten, Nutzung von institutionellen Repositorien

### **Privacy practices in academic libraries in Ghana: Insight into three top universities**

#### **Datenschutzpraktiken in wissenschaftlichen Bibliotheken in Ghana: Einblicke in drei Spitzenuniversitäten**

Bright Kwaku Avuglah, Christopher M. Owusu-Ansah, Gloria Tachie-Donkor, Eugene Baah Yeboah

IFLA Journal, 47–2, 196–208

Zusammenfassung:

Diese Untersuchung trägt zum Wissen über Datenschutzpraktiken in akademischen Bibliotheken bei, indem sie Umfragedaten von Bibliothekaren und ihren studentischen Nutzern an drei öffentlichen Spitzenuniversitäten in Ghana vergleicht. Unsere

Nachforschungen ergaben, dass die ghanaischen Universitätsbibliotheken nicht proaktiv an der Förderung des Datenschutzes arbeiteten. Es besteht bei Bibliothekaren und ihren studentischen Nutzern generell ein mangelndes Bewusstsein hinsichtlich der Bibliotheks-Praktiken, Richtlinien und Verfahren in Bezug auf den Datenschutz in ihren Institutionen. Außerdem wurde im Bereich Aufklärung über den Datenschutz und Kommunikation der Datenschutzrichtlinien der Bibliothek und der Anbieter in Richtung der Mitarbeiter und studentischen Nutzer nur sehr wenig getan. Unter anderem wurden Empfehlungen für Bibliotheksleiter und den Berufsverband der Bibliotheken in Ghana ausgesprochen, Toolkits zu entwickeln, die die Aufklärung über den Datenschutz und das Eintreten für den Datenschutz erleichtern.

Schlüsselbegriffe: Datenschutz für Nutzer, Datenschutzrichtlinien, Datenschutzpraktiken, Universität von Cape Coast, Universität von Education, Winneba, Universität von Ghana

### **Effects of service quality on satisfaction in Eastern University Library**

#### **Auswirkungen der Servicequalität auf die Zufriedenheit in der Bibliothek der Eastern University**

Md. Jahangir Alam

IFLA Journal, 47–2, 209–222

Zusammenfassung:

Diese Studie untersuchte die Auswirkungen der SERVQUAL-Dimensionen auf die Benutzerzufriedenheit in der Eastern University Library, Bangladesch. Ein modifiziertes SERVQUAL-Instrument wurde an die lokalen Gegebenheiten angepasst und umfasste 30 Aussagen zu fünf Dimensionen mit einer siebenstufigen Likert-Skala zur Bewertung der Auswirkungen der Bibliotheks-Servicequalität auf die Benutzerzufriedenheit. Es wurde eine Umfrage unter 51 Lehrkräften und 163 Studenten im Grundstudium und 38 Studenten im Aufbaustudium durchgeführt. Die Auswirkungen der fünf SERVQUAL-Dimensionen wurden mittels multipler Regressionsanalyse berechnet, wobei die fünf Dimensionen als unabhängige Variablen und die Benutzerzufriedenheit als abhängige Variable verwendet wurden. Das Regressionsmodell erwies sich als signifikant ( $p < 0,001$ ) und erklärte die 56,9%ige Variation der Benutzerzufriedenheit. Die Ergebnisse zeigten, dass die materielle Ausstattung ( $p < 0,001$ ), die Ansprechbarkeit des Personals ( $p < 0,001$ ) und die Ressourcen ( $p$

$< 0,004$ ) der Bibliothek die Benutzerzufriedenheit signifikant beeinflussen. Mehrere statistische Methoden unterstützten die Reliabilität und Validität des Modells, was weitere Forschungen zur Servicequalität und deren Einfluss auf die Benutzerzufriedenheit in wissenschaftlichen Bibliotheken anregen wird.

Schlüsselbegriffe: Auswirkungen, Servicequalität, Benutzerzufriedenheit, SERVQUAL, Universitätsbibliothek, Bangladesch

### **Role of Lebanese public school libraries in the changing information environment**

#### **Die Rolle der libanesischen öffentlichen Schulbibliotheken in der sich verändernden Informationslandschaft**

Patricia Rahme, Gladys Saade, Nohma Khayrallah

IFLA Journal, 47–2, 223–235

Zusammenfassung:

Forscher und Bibliotheksverbände hinterfragen und untersuchen kontinuierlich den Zustand und die Rolle von Schulbibliotheken in verschiedenen Ländern der Welt. Diese Studie liefert originäres empirisches Material, um einen Einblick in die Situation der öffentlichen Schulbibliotheken im Libanon zu gewinnen, und sie zielt darauf ab, die ihnen zugewiesenen Rollen und die Faktoren zu bestimmen, die ihre Entwicklung hemmen. Die Studie ergab, dass der Schwerpunkt der Programme und Aktivitäten dieser Bibliotheken auf der Leseförderung der Schüler liegt, wobei die verfügbaren Printbuchsammlungen optimal genutzt werden, während andere Bereiche wie die Förderung von Recherchefähigkeiten und die Unterstützung des Lehrplans unterrepräsentiert waren. Außerdem ist der Kontext, bei dem heute nur noch wenige Bibliotheken an weiterführenden öffentlichen Schulen vorhanden sind, auf lokale und internationale Gemeinschaftsinitiativen zurückzuführen.

Schlüsselbegriffe: Libanon, öffentliche Schulbibliotheken, Schulbibliothekare

### **Faculty–librarian administrative structure and collaborative activities supporting teaching and research at Vietnamese universities: A qualitative study**

#### **Kollaborative Verwaltung und Aktivitäten zwischen Fakultät und Bibliothekaren an vietnamesischen Universitäten**

Thi Lan Nguyen, Kulthida Tuamsuk

IFLA Journal, 47–2, 236–249

Zusammenfassung:

Dieser Artikel berichtet über die Verwaltungsstruktur und die Kooperation von Fakultätsangehörigen und Bibliothekaren innerhalb vietnamesischer Universitäten, um deren Auswirkungen auf Lehre und Forschung sowie deren kollaborativen Nutzen, Vor- und Nachteile zu bewerten. Die Autoren setzten eine qualitative Methode ein, um den aktuellen Stand der Zusammenarbeit zwischen Lehrkräften und Bibliothekaren zu ermitteln, und führten 29 Tiefeninterviews mit wichtigen Beteiligten an vietnamesischen Universitäten. Die Ergebnisse wiesen darauf hin, dass eine solche Zusammenarbeit oft auf den persönlichen Umständen der Mitarbeiter beruhte und dass bibliothekarische Verbindungspartnerschaften in erster Linie mit dem Beruf, der Persönlichkeit und den Einstellungen der Dozenten in den verschiedenen Fakultäten zusammenhängen. Darüber hinaus konzentrierten sich die Universitäten auf die Zusammenarbeit zur Unterstützung von Lehre und Forschung, wie Gestaltung von Lehrplänen, Aktivitäten zur Forschungsunterstützung und Entwicklung von Sammlungen. Die Ergebnisse dieser Studie können den Akteuren an den Universitäten dabei helfen, die Effektivität und die Grenzen von Kooperationsbeziehungen zu überprüfen.

Schlüsselbegriffe: Zusammenarbeit zwischen Fakultät und Bibliothekar, Universitätsbibliotheken, unterstützende Bibliotheksdienste, Aktivitäten der Bibliothekszusammenarbeit, Verwaltung der Bibliothekszusammenarbeit, vietnamesische Universitäten

**Collections and services of public libraries in West Bengal, India: An evaluative study against the backdrop of the IFLA guidelines**

**Sammlung und Dienstleistungen öffentlicher Bibliotheken in Westbengalen, Indien**

Shamim Aktar Munshi, Mehtab Alam Ansari Dr.

IFLA Journal, 47–2, 250–262

Zusammenfassung:

Das Ziel dieser Studie war es, den Status der öffentlichen Bibliotheken auf Distriktebene in Westbengalen, Indien, zu untersuchen. Die Studie konzentrierte sich sowohl auf das Personal als auch auf die Dienstleistungen vor dem Hintergrund der Entwicklungsstrategie für die Sammlung. Sie untersuchte auch die Herausforderungen, vor denen die Bibliothekare stehen, und schlug Maßnahmen zur Überwindung dieser Schwierigkeiten vor. Die Forscher verwendeten zur Erhebung der Daten einen Mixed-Methods-Ansatz mit sowohl quantitativen als auch qualitativen Methoden. Das primäre Mittel der Datenerhebung war jedoch eine Umfragemethode unter Verwendung eines strukturierten Fragebogens. Zusätzlich wurden Interviews mit Bibliothekarinnen und Bibliothekaren geführt, um mehr subjektive Erfahrungen in die Ergebnisse aufzunehmen. Die Ergebnisse deuten darauf hin, dass in verschiedenen öffentlichen Bibliotheken keine Auswahlkomitees zur Rekrutierung von neuem Personal eingesetzt wurden; daher leiden die Bibliotheken unter einem Personalmangel. Aufgrund des starken Personalmangels in den Bibliotheken wurde in keiner der befragten Bibliotheken die Bücherdatenbank in der Bibliotheksverwaltungssoftware Libsys vervollständigt. Öffentliche Bibliotheken sind dazu geschaffen, dass sie ihren Benutzern eine Vielzahl von Dienstleistungen anbieten. Die Dienstleistungen sind also das Hauptprodukt des öffentlichen Bibliothekssystems. Die Ergebnisse zeigen, dass die befragten Bibliotheken verschiedene Arten von Dienstleistungen - wie z. B. Kinder-, Berufsberatungs- und Gemeindeformationsdienste - zum Nutzen ihrer Benutzergemeinschaften anbieten.

Schlüsselbegriffe: IFLA, Richtlinien für Dienste öffentlicher Bibliotheken, Bibliotheksbestände, Bibliotheksdienste, öffentliche Bibliotheken, Westbengalen, Indien

## Аннотация

**Knowledge and Skills for accessing Agricultural Information by Rural Farmers**

**Необходимые знания и навыки для доступа сельских фермеров к сельскохозяйственной информации**

Угонна Бенедетта Фиделугвуowo

Ugonna Benedette Fidelugwuowo

Журнал ИФЛА, 47–2, 119–128

Аннотация:

В любой развивающейся экономике именно сельские фермеры составляют большинство производителей сельскохозяйственных культур. Их уровень доступа к сельскохозяйственной информации зависит от знаний и навыков, которыми они

обладают. Цель данной статьи – определить источники сельскохозяйственной информации, а также уровень знаний и навыков, которыми обладают сельские фермеры для доступа к такой информации в Юго-Восточной Нигерии. С целью сбора соответствующих данных был использован структурированный график интервью и обсуждения в фокус-группах. Метод анализа включает в себя подсчеты частот, процентов и средств. Исследование показало, что 41,7% респондентов были в возрасте от 41 до 50 лет, из них 62,6% были женаты, 84,8% исповедовали христианство и 29,8% не имели формального образования. Основным источником получения информации в области сельского хозяйства были друзья и коллеги, к тому же знания и навыки, которыми они обладали для доступа к сельскохозяйственной информации, были, как правило, низкими. В данном исследовании раскрываются объективные рамки и меры существующих компетенций, а также указывается необходимость дальнейшего приобретения навыков.

**Ключевые слова:** Сельскохозяйственная информация, сельские фермеры, знания и навыки, продовольственная безопасность, фермеры, сельскохозяйственное производство

### **Research methodology practices among postgraduate Information Studies students in Tanzania**

#### **Практика методологических исследований среди аспирантов в области информационных исследований в Танзании**

Эстер Нденье-Сихалве, Эммануэль Франк Элия

Esther Ndenje-Sichalwe, Emmanuel Frank Elia

Журнал ИФЛА, 47–2, 129–141

**Аннотация:**

В данном библиометрическом исследовании подвергается анализу методологическая практика обучения на степень Магистра искусств в области информационных исследований (MAIS) студентов Университета Дар-эс-Салама, Танзания. В ходе исследования было установлено недостаточное понимание студентами и применение ими концепций методологии исследования. Опросные исследования преобладали, при этом широко использовались целенаправленные и удобные методы вероятностной выборки. Наиболее широко применяемыми методами вероятностной выборки являлись простая случайная выборка и

стратифицированная выборка. Согласно полученным результатам, было выявлено, что продвинутый качественный и количественный анализ данных применялся неадекватно. Результаты исследования могут на практике помочь учреждениям библиотек и информации по всему миру усовершенствовать методику преподавания предмета научных исследований для помощи в написании качественных диссертаций с логическими выводами, которые смогут стать импульсом в развитии новых теорий. Качественные научные работы могут привести к увеличению количества и улучшению качества журнальных статей и росту библиотечно-информационной науки. Таким образом, существует необходимость в усилении подготовки студентов и преподавателей по методологии исследований для получения обобщаемых результатов, отвечающих разнообразным потребностям.

**Ключевые слова:** Методы сбора данных, исследование LIS, методология исследования LIS, исследовательский подход, дизайн исследования, методы исследования, парадигма исследования

### **TETFund intervention in the provision of library resources in academic libraries in Nigeria**

#### **Оценка роли деятельности фонда TETFund в предоставлении библиотечных ресурсов в академические библиотеки Нигерии**

Cajetan Onyeneke, Ihunanya, Lovelyn Ahaneku

Cajetan Onyeneke, Ihunanya, Lovelyn Ahaneku

Журнал ИФЛА, 47–2, 142–152

**Аннотация:**

В данном исследовании дается оценка роли работы фонда TETFund в сфере предоставления библиотечных ресурсов в академические библиотеки провинции Имо, Нигерия. Изучение основывалось на четырех исследовательских вопросах и на трех нулевых гипотезах. В ходе исследования использовался опросный план, а в качестве инструмента исследования проводилось анкетирование. В данном исследовании приняли участие 105 профессиональных и пара-профессиональных сотрудников библиотек двух университетов провинции Имо. Полученные результаты показывают, что фонд TETFund в значительной степени способствует предоставлению информационных ресурсов в двух исследуемых университетах. По результатам исследования высказывается рекомендация, чтобы

соответствующие правительственные министерства контролировали деятельность фонда TETFund, чтобы обеспечить равное распределение ресурсов между университетами, и чтобы фонд TETFund сам получил полномочия для упрощения этих процессов. Исследователи также рекомендуют фонду TETFund организовывать конференции для изучения нужд учреждений и информирования их о процессах получения доступа к финансированию и получению распределяемых ресурсов от фонда TETFund.

Ключевые слова: деятельность фонда TETFund, библиотечные ресурсы, академические библиотеки, провинция Имо, Нигерия

### **Channels used to deliver agricultural information and knowledge to smallholder farmers**

#### **Каналы, используемые для передачи информации и знаний в области сельского хозяйства мелким фермерам**

Тумпе Ндимбва, Келефа Мвантимва, Фараджа Ндумбаро

Tumpe Ndimbwa, Kelefa Mwantimwa, Faraja Ndumbaro

Журнал ИФЛА, 47–2, 153–167

Аннотация:

Эффективность информационных каналов, используемых для передачи знаний в области сельского хозяйства мелким фермерам в Танзании явилась предметом исследования в данной работе. Наряду с количественным и качественным подходами использовалось описательное исследование методом поперечных срезов для сбора данных с привлечением 341 респондента. При этом данные, собранные с помощью анкеты, были проанализированы с использованием Статистических решений для продуктов и услуг (SPSS) версии 21, а данные, собранные с помощью интервью, были проанализированы с помощью тематического анализа. Полученные результаты свидетельствуют о том, что одной из важных проблем, препятствующих усилиям мелких фермеров увеличивать производство продукции, является недостаточно продуманное предоставление своевременной и актуальной информации и знаний в области сельского хозяйства, а также отсутствие доступа к интернету. В результате чего большинство мелких фермеров в основном зависят от неформальных

каналов. Помимо неформальных каналов, фермерские группы и демонстрационные участки становятся популярными каналами распространения сельскохозяйственной информации и знаний, а также доступа к ним. Чтобы изменить ситуацию в сельскохозяйственном производстве, необходимо предпринять целенаправленные усилия по расширению распространения сельскохозяйственной информации и знаний.

Ключевые слова: Знания в области сельского хозяйства, сельскохозяйственная информация, механизм доставки, мелкие фермеры, сельская местность, Танзания

### **Benefits of Crowdsourcing for Libraries: A Case Study from Africa**

#### **Преимущества краудсорсинга для библиотек: пример из Африки**

Рене Линч Линч, Джейсон К. Янг, Стэнли Боаки-Ачампонг, Кристофер Джовайзас, Джоэл Сэм, Бри Норландер

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Журнал ИФЛА, 47–2, 168–181

Аннотация:

Большое количество библиотек Глобального Юга не занимаются накоплением информации о своих ресурсах, что приводит к определенным сложностям в области известности как на местном, так и на международном уровне. Краудсорсинг является эффективным инструментом, привлекающим внимание общественности к сбору недостающих данных, и он оказался особенно ценным в странах, где правительством уделяется недостаточно внимания к сбору публичных данных. Краудсорсинг часто используется в таких областях, как здравоохранение, высокий уровень финансирования данной области обеспечивает ее развитие, и авторы считают, что данный подход будет иметь много преимуществ и для библиотечной сферы. Они представляют качественные и количественные данные из 23 африканских стран, участвующих в краудсорсинговом проекте по составлению карт библиотек. Авторы находят преимущества с точки зрения расширения связей между заинтересованными сторонами, наращивания потенциала и повышения осведомленности на местном уровне.

Эти результаты демонстрируют потенциал краудсорсинговых подходов для решения таких задач, как картографирование, в интересах библиотек и аналогичных учреждений на Глобальном Юге многогранными способами.

Ключевые слова: Краудсорсинг, картирование, наращивание потенциала, пробелы в данных, Африка

### **Awareness, anchor and adjustment factors in the use of institutional repositories by Nigerian lecturers**

**Осведомленность, якорные и корректирующие факторы использования институциональных хранилищ нигерийскими лекторами**

Алиса А. Бамигбола

Alice A. Bamigbola

Журнал ИФЛА, 47–2, 182–195

Аннотация:

Во всем мире при университетах были созданы хранилища, обеспечивающие огромные преимущества для различных заинтересованных сторон, особенно для преподавателей. Однако данные подтвердили тот факт, что институциональные хранилища редко используются преподавателями. Так например, в предыдущих исследованиях изучалось отношение и дисциплины, но, по-видимому, отсутствуют исследования в области якорных и корректирующих факторов. По этой причине в данном исследовании рассматриваются вопросы осведомленности, якорные и корректирующие факторы как детерминанты использования институциональных хранилищ лекторами в Нигерии. Для отбора университетов использовались такие методы как описательный опрос и метод целенаправленной выборки, а университеты имели функциональные институциональные хранилища по меньшей мере в течение четырех лет на момент сбора информации. Для сбора данных от 857 лекторов использовалась анкета. Исследование показывает, что осведомленность, якорные и корректирующие факторы являются детерминантами использования институциональных хранилищ преподавателями нигерийских университетов. В исследовании даются рекомендации работникам библиотек по организации большего количества информационно-просветительских программ и также дается совет преподавателям по регулярному использованию компьютеров для повышения

эффективности работы, а также по использованию компьютерных игр.

Ключевые слова: Якорные факторы, корректирующие факторы, осведомленность об институциональных хранилищах, преподаватели, нигерийские университеты, использование институциональных хранилищ

### **Privacy practices in academic libraries in Ghana: Insight into three top universities**

**Практика конфиденциальности в академических библиотеках Ганы: Обзор трех ведущих университетов**

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Bright Kwaku Avuglah, Christopher M. Owusu-Ansah, Gloria Tachie-Donkor, Eugene Baah Yeboah

Журнал ИФЛА, 47–2, 196–208

Аннотация:

Данным исследованием вносится значительный вклад в изучение практики конфиденциальности в академических библиотеках. Исследования проводились в трех ведущих государственных университетах Ганы путем сравнения данных опросов библиотекарей и студентов-помощников. Наше исследование показало, что академические библиотеки Ганы не проявляют особой активности в продвижении вопросов конфиденциальности. Существует общая недостаточная осведомленность среди библиотекарей и их студентов-помощников о библиотечной практике, политике и процедурах, касающихся конфиденциальности в их учреждениях. Кроме того, очень мало было сделано с точки зрения обеспечения образования в области конфиденциальности и информирования сотрудников и студентов-помощников о политике конфиденциальности библиотек и поставщиков. Среди прочего, были даны рекомендации руководителям библиотек и библиотечной профессиональной ассоциации Ганы разработать инструментарий, который будет способствовать просвещению в области конфиденциальности и пропаганде конфиденциальности.

Ключевые слова: Покровительская конфиденциальность, политика конфиденциальности, практика конфиденциальности, Университет Кейп-Кост, Университет образования, Виннеба, Университет Ганы

### **Effects of service quality on satisfaction in Eastern University Library**

#### **Влияние качества обслуживания на уровень удовлетворенности пользователей в библиотеке Восточного университета**

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Md. Jahangir Alam

Журнал ИФЛА, 47–2, 209–222

Аннотация:

В данном исследовании проводилась оценка влияния измерений SERVQUAL на уровень удовлетворенности пользователей в библиотеке Восточного университета в Бангладеш. Модифицированный инструмент SERVQUAL был адаптирован к местным условиям и включал 30 заявлений по пяти измерениям по семибалльной шкале Лайкерта для оценки влияния качества библиотечных услуг на уровень удовлетворенности пользователей. Опрос был проведен среди 51 преподавателя и 163 студентов и 38 аспирантов. Эффекты пяти измерений SERVQUAL были вычислены с помощью множественного регрессивного анализа, где пять измерений использовались в качестве независимых переменных, а удовлетворенность пользователей - в качестве зависимой переменной. Регрессивная модель была установлена как значимая ( $p < 0,001$ ) и объясняла 56,9% процентную вариацию удовлетворенности пользователей. Результаты показали, что материальные средства ( $p < 0,001$ ), отзывчивость персонала ( $p < 0,001$ ) и ресурсы ( $p < 0,004$ ) библиотеки существенно влияют на уровень удовлетворенности пользователей. Несколько статистических методов подтвердили надежность и валидность модели, что побудит к дальнейшим исследованиям качества обслуживания и его влияния на уровень удовлетворенности пользователей в академических библиотеках.

Ключевые слова: Эффекты, качество обслуживания, удовлетворенность пользователей, SERVQUAL, академическая библиотека, Бангладеш

### **Role of Lebanese public school libraries in the changing information environment**

#### **Роль ливанских публичных школьных библиотек в меняющейся информационной среде**

Патриция Рахе, Глэдис Сааде, Нохма Хайралла

Patricia Rahme, Gladys Saade, Nohma Khayrallah

Журнал ИФЛА, 47–2, 223–235

Аннотация:

Состояние и роль школьных библиотек в различных странах мира постоянно ставятся под сомнение исследователями и библиотечными ассоциациями, которые и исследуют состояние и роль школьных библиотек в различных странах мира. Данное исследование дает оригинальный эмпирический материал для понимания положения государственных школьных библиотек в Ливане и направлено на определение роли, отведенной им, и причин, препятствующих их развитию. Это исследование показало, что основное внимание в программах и мероприятиях библиотек уделяется пропаганде чтения среди студентов, при котором имеющиеся коллекции печатных книг должны быть использованы как можно лучше, в то время как другие области деятельности, такие как развитие исследовательских навыков и поддержка учебной программы, недооцениваются. Кроме того, контекст, в котором сегодня работают немногие библиотеки средних государственных школ, обусловлен инициативами местного и международного сообщества.

Ключевые слова: Ливан, публичные школьные библиотеки, школьные библиотекари

Преподавательско-библиотечное совместное управление и деятельность во Вьетнамских университетах

### **Faculty-librarian administrative structure and collaborative activities supporting teaching and research at Vietnamese universities: A qualitative study**

#### **Faculty - Совместное управление библиотек и их деятельность во Вьетнамских университетах**

Тхи Лан Нгуен, Култида Туамсук

Thi Lan Nguyen, Kulthida Tuamsuk

Журнал ИФЛА, 47–2, 236–249

Аннотация:

В этой статье речь идет об административной структуре и совместной деятельности профессорско-преподавательского состава и библиотекарей вьетнамских университетов с целью оценки их влияния на преподавание и исследования, а также об их совместных достижениях, преимуществах и недостатках. Авторы использовали качественный



метод для определения текущего состояния сотрудничества профессорско-преподавательского состава и библиотекарей, а также провели 29 углубленных интервью с основными участниками от вьетнамских университетов. Полученные результаты показали, что подобное сотрудничество зачастую основывалось на личных обстоятельствах сотрудников и что сотрудничество между библиотекарями в первую очередь связаны с профессией на факультете, их личностными качествами и совместной работой преподавателей различных подразделений. Кроме того, университеты сосредоточились на совместной деятельности по поддержке преподавания и исследований: разработке учебных программ, поддержке исследований и разработке коллекций. Результаты этого исследования будут полезны для заинтересованных лиц в университетах при рассмотрении эффективности и ограничений в отношении их сотрудничества.

Ключевые слова: сотрудничество профессорско-преподавательского состава и библиотекарей, академические библиотеки, библиотечное обеспечение, библиотечное сотрудничество, управление библиотечным сотрудничеством, вьетнамские университеты

### **Collections and services of public libraries in West Bengal, India: An evaluative study against the backdrop of the IFLA guidelines**

#### **Коллекция и услуги публичных библиотек в Западной Бенгалии, Индия**

Шамим Актар Мунши, Мехтаб Алам Ансари Др.

Shamim Aktar Munshi, Mehtab Alam Ansari Dr.

Журнал ИФЛА, 47–2, 250–262

Аннотация:

Целью данного исследования явилось изучение состояния публичных библиотек районного уровня в Западной Бенгалии, Индия. Исследование было сосредоточено на персонале, а также на услугах в контексте мер по расширению коллекции. Были также рассмотрены проблемы, с которыми сталкиваются библиотекари, а также предложены меры по преодолению этих трудностей. Исследователями использовался смешанный подход: количественные и качественные методы для получения данных. Однако основным средством сбора данных явился метод опроса с использованием структурированной анкеты. Кроме того, были проведены интервью с библиотекарями с целью придания результатам большей субъективности. Полученные результаты свидетельствуют о том, что никаких отборочных комиссий для набора новых сотрудников в различные публичные библиотеки не проводилось; следовательно, библиотеки испытывали недостаток персонала. Из-за острой нехватки библиотечного персонала ни в одной из исследованных библиотек не было завершено составление базы данных книг в программном обеспечении Libsys для управления библиотеками. Публичные библиотеки создаются для предоставления разнообразных услуг своим пользователям. Таким образом, услуги являются основным продуктом публичной системы библиотек. Полученные результаты показывают, что различные виды услуг, такие как детские, профориентационные и общественные информационные услуги, предоставляются исследованными библиотеками в интересах своих сообществ пользователей.

Ключевые слова: ИФЛА, руководство по обслуживанию публичных библиотек, библиотечные фонды, библиотечные услуги, публичные библиотеки, Западная Бенгалия, Индия

## **Resúmenes**

### **Knowledge and Skills for accessing Agricultural Information by Rural Farmers**

#### **Conocimientos y habilidades para el acceso a información agrícola por parte de los agricultores rurales**

Ugonna Benedette Fidelugwuowo

IFLA Journal, 47–2, 119–128

Abstract La mayoría de los productores de cultivos de las economías en desarrollo son agricultores rurales. Su nivel de acceso a la información agrícola depende de los conocimientos y las habilidades que posean. Este artículo tiene por objeto identificar las fuentes de información agrícola y el nivel de conocimientos y habilidades que los agricultores rurales poseen para acceder a dicha información en la región sudeste de Nigeria. Para recoger los datos pertinentes se utilizaron una entrevista estructurada y grupos de debate. El método de análisis consta de recuentos de frecuencia, porcentajes y medias. El estudio revela que el 41,7%

de los encuestados tenían entre 41 y 50 años, mientras que el 62,6% estaban casados/as, el 84,8% eran cristianos y el 29,8% no tenían educación formal. La principal fuente de información agrícola era a través de amigos y compañeros, mientras que los conocimientos y las habilidades que poseían para acceder a la información agrícola eran por lo general escasas. El estudio proporciona un marco objetivo, mide las competencias existentes y determina la necesidad de adquirir más habilidades.

Palabras clave: información agrícola, agricultores rurales, conocimientos y habilidades, seguridad alimentaria, agricultores, producción agrícola.

**Research methodology practices among postgraduate Information Studies students in Tanzania** *Prácticas metodológicas de investigación entre alumnos de estudios de información de posgrado en Tanzania*

**Esther Ndenje-Sichalwe, Emmanuel Frank Elia**

IFLA Journal, 47–2, 129–141

AbstractEn este estudio bibliométrico se analizan las prácticas metodológicas de investigación de los alumnos del Máster de Estudios de Arte e Información (MAIS) en la Universidad de Dar es Salaam (Tanzania). El estudio determinó cierta deficiencia en la comprensión y la aplicación de conceptos relacionados con la metodología investigativa por parte de los alumnos. Predominó la investigación mediante encuestas y se emplearon ampliamente métodos de muestreo intencional y no probabilístico a conveniencia. Los métodos de muestreo probabilístico más utilizados fueron el muestreo aleatorio simple y el muestreo estratificado. Los resultados demostraron la aplicación inadecuada de análisis de datos cualitativos y cuantitativos avanzados. En la práctica, las conclusiones del estudio pueden ayudar a instituciones de biblioteconomía y documentación de todo el mundo a mejorar la metodología de investigación para producir tesis de calidad con conclusiones lógicas capaces de desarrollar teorías nuevas. Las tesis de calidad pueden traducirse en un aumento de la cantidad y la calidad de los artículos en revistas especializadas y el crecimiento de la disciplina de biblioteconomía y documentación. Por tanto, es necesario reforzar la formación sobre metodologías investigativas entre los estudiantes y los profesores con vistas a generar resultados generalizables que satisfagan las diversas necesidades.

Palabras clave: métodos de recogida de datos, investigación ByD, metodología investigativa en ByD, enfoque de investigación, diseño de investigación, métodos de investigación, paradigma de investigación

**TETFund intervention in the provision of library resources in academic libraries in Nigeria**

**Intervención del TETFund en la provisión de recursos bibliotecarios en bibliotecas académicas de Nigeria**

Cajetan Onyeneke, Ihunanya, Lovelyn Ahaneku

IFLA Journal, 47–2, 142–152

AbstractEn este estudio se analizó la intervención del TETFund en la provisión de recursos bibliotecarios en bibliotecas académicas del Estado de Imo (Nigeria). El estudio constaba de cuatro preguntas de investigación y tres hipótesis nulas. Adoptó un diseño de encuesta con un cuestionario como instrumento de investigación. La población del estudio fue de 105 empleados de bibliotecas profesionales y para profesionales de dos universidades del Estado de Imo. Las conclusiones demuestran que el TETFund interviene ampliamente en la provisión de los recursos informativos en las dos universidades estudiadas. El estudio recomienda a los ministros del gobierno competentes que supervisen las actividades del TETFund para garantizar que todas las universidades se beneficien por igual y que ordenen al TETFund la simplificación de los procesos. Los investigadores también recomiendan que el TETFund organice congresos para informar a las instituciones sobre la necesidad de acceder a la financiación y los beneficios del TETFund y los procesos que deben seguirse para ello.

Palabras clave: intervención del TETFund, recursos bibliotecarios, bibliotecas académicas, Estado de Imo, Nigeria

**Channels used to deliver agricultural information and knowledge to smallholder farmers**

**Canales utilizados para proporcionar información y conocimientos agrícolas a los pequeños agricultores**

Tumpe Ndimbwa, Kelefa Mwantimwa, Faraja Ndumbaro

IFLA Journal, 47–2, 153–167

Abstract En este estudio se examinó la eficacia de los canales utilizados para proporcionar información y conocimientos agrícolas a los pequeños agricultores de Tanzania. Para recoger los datos de los 341 encuestados se utilizó un diseño transversal descriptivo junto con enfoques cuantitativos y cualitativos. Aunque los datos recogidos a través del cuestionario se analizaron utilizando la versión 21 de Statistical Product and Service Solutions (SPSS), los datos recopilados a través de la encuesta se analizaron por medio de un análisis temático. Los resultados indican que el suministro y el acceso a información y conocimientos agrícolas pertinentes, oportunos y en el formato adecuado son problemas críticos que socavan los esfuerzos de los pequeños agricultores para aumentar su producción. En consecuencia, la mayoría de los pequeños agricultores dependen principalmente de canales informales. Además de los canales informales, los grupos de agricultores y las parcelas de demostración se están convirtiendo en canales populares para suministrar y acceder a información y conocimientos agrícolas. Para marcar la diferencia en la producción agrícola, deben realizarse esfuerzos deliberados para mejorar el suministro de información y conocimientos agrícolas.

Palabras clave: conocimientos agrícolas, información agrícola, mecanismo de suministro, pequeños agricultores, rural, Tanzania

### **Benefits of Crowdsourcing for Libraries: A Case Study from Africa**

#### **Beneficios del *crowdsourcing* para las bibliotecas: un estudio de caso de África**

Renee Lynch Lynch, Jason C. Young, Stanley Boakye-Achampong, Christopher Jowaisas, Joel Sam, Bree Norlander

IFLA Journal, 47–2, 168–181

Abstract Muchas bibliotecas del Sur Global no recogen datos completos sobre su institución, lo que genera algunas dificultades en términos de visibilidad local e internacional. El *crowdsourcing* es una herramienta eficaz que permite al público recopilar datos faltantes y es particularmente valioso en países en los que los gobiernos recogen pocos datos públicos. Si bien se utiliza a menudo en ámbitos con elevados niveles de financiación para el desarrollo, como la salud, los autores creen que este enfoque tendría muchos beneficios también en el ámbito de las bibliotecas. Se presentan pruebas cualitativas y cuantitativas de 23 países africanos que

participan en un proyecto de *crowdsourcing* para localizar bibliotecas. Los autores encuentran beneficios en términos de expansión de las relaciones entre las partes interesadas, refuerzo de las capacidades y aumento de la visibilidad local. Estos resultados demuestran el potencial de los enfoques de *crowdsourcing* para tareas como el mapeo en beneficio de las bibliotecas y otras instituciones similares del Sur Global.

Palabras clave: *crowdsourcing*, mapeo, refuerzo de las capacidades, falta de datos, África

### **Awareness, anchor and adjustment factors in the use of institutional repositories by Nigerian lecturers**

#### **Difusión y factores de anclaje y ajuste para promover el uso de los repositorios institucionales entre los profesores nigerianos**

**Alice A. Bamigbola**

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Abstract Se han creado repositorios institucionales en universidades de todo el mundo por los inmensos beneficios que aportan a diversas partes interesadas, especialmente a los profesores. Sin embargo, la documentación existente confirma que los profesores utilizan poco estos repositorios. Algunos estudios anteriores han analizado las actitudes y las disciplinas, por ejemplo, pero parece que no existe ningún estudio sobre los factores de anclaje y ajuste. Este estudio analiza la difusión y los factores de anclaje y ajuste como elementos determinantes de uso de los repositorios institucionales por parte de los profesores en Nigeria. Para seleccionar las universidades que habían tenido repositorios institucionales funcionales durante al menos cuatro años en el momento de la recopilación de datos se utilizó un estudio descriptivo y una técnica de muestreo intencional. Se utilizó un cuestionario para recoger los datos de 857 profesores. El estudio revela que la difusión y los factores de anclaje y ajuste son elementos determinantes de uso de los repositorios institucionales por parte de los profesores en las universidades nigerianas. El estudio recomienda a las bibliotecas organizar más programas de difusión y a los profesores usar continuamente los ordenadores para mejorar sus competencias informáticas.

Palabras clave: factores de anclaje, factores de ajuste, difusión sobre repositorios institucionales, profesores, universidades nigerianas, uso de repositorios institucionales

### **Privacy practices in academic libraries in Ghana: Insight into three top universities**

#### **Prácticas de privacidad en bibliotecas académicas de Ghana: estudio de tres universidades importantes**

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IFLA Journal, 47–2, 196–208

AbstractEste estudio contribuye a los conocimientos sobre las prácticas de privacidad de bibliotecas académicas por medio de la comparación de los datos de encuestas rellenas por bibliotecarios y mecenas en tres importantes universidades públicas de Ghana. Nuestra investigación revela que las bibliotecas académicas de Ghana no se han mostrado proactivas a la hora de promover cuestiones relacionadas con la privacidad. Existe una falta generalizada de conocimientos entre los bibliotecarios y los mecenas sobre las prácticas, las políticas y los procedimientos de las bibliotecas en relación con la privacidad de sus instituciones. Además, se ha hecho muy poco en términos de impartición de educación sobre privacidad y comunicación de las políticas de la biblioteca y de los proveedores al personal y los mecenas. Entre las recomendaciones destaca pedir a los responsables de las bibliotecas y la asociación profesional de bibliotecas de Ghana que desarrollen cajas de herramientas para facilitar educación sobre la privacidad.

Palabras clave: privacidad de mecenas, políticas de privacidad, prácticas de privacidad, Universidad de Cape Coast, Universidad de Educación, Winneba, Universidad de Ghana

### **Effects of service quality on satisfaction in Eastern University Library**

#### **Efectos de la calidad de los servicios sobre la satisfacción en la biblioteca de la Eastern University**

Md. Jahangir Alam

IFLA Journal, 47–2, 209–222

AbstractEn este estudio se evaluaron los efectos de las dimensiones del modelo SERVQUAL sobre la satisfacción de los usuarios en la biblioteca de la Eastern University de Bangladesh. Un instrumento SERVQUAL modificado se adaptó a las disposiciones locales y se incluyeron 30 afirmaciones englobadas en cinco dimensiones con una escala de Likert de siete puntos para evaluar los efectos de la calidad del servicio de la biblioteca sobre la satisfacción de los

usuarios. Se realizó una encuesta entre 51 profesores, 163 estudiantes de grado y 38 estudiantes de posgrado. Los efectos de cinco dimensiones del modelo SERVQUAL se calcularon a través de un análisis de regresión múltiple, en el que se utilizaron cinco dimensiones como variables independientes y la satisfacción de los usuarios como variable dependiente. El modelo de regresión se estableció como significativo ( $p < 0,001$ ) y explicó la variación del 56,9% en la satisfacción de los usuarios. Los resultados señalaron que las instalaciones físicas ( $p < 0,001$ ), la capacidad de respuesta del personal ( $p < 0,001$ ) y los recursos ( $p < 0,004$ ) de la biblioteca influían mucho en la satisfacción de los usuarios. Varios métodos estadísticos respaldaron la fiabilidad y la validez del modelo, lo que merece un estudio adicional sobre la calidad de los servicios y su impacto en la satisfacción de los usuarios de bibliotecas académicas.

Palabras clave: efectos, calidad del servicio, satisfacción de los usuarios, SERVQUAL, biblioteca académica, Bangladesh

### **Role of Lebanese public school libraries in the changing information environment**

#### **Papel de las bibliotecas de las escuelas públicas libanesas en el dinámico entorno de la información**

Patricia Rahme, Gladys Saade, Nohma Khayrallah

IFLA Journal, 47–2, 223–235

AbstractLos investigadores y las asociaciones de bibliotecas analizan continuamente la situación y el papel de las bibliotecas escolares en distintos países del mundo. Este estudio proporciona material empírico original para dar a conocer la situación de las bibliotecas de las escuelas públicas de Líbano y tiene por objeto determinar los roles que se les asignan y las razones que inhiben su desarrollo. Este estudio revela que el objetivo de los programas y las actividades de las bibliotecas es promover la lectura entre los alumnos o realizar el mejor uso posible de los fondos bibliográficos disponibles, mientras que no se concede tanta importancia a otras actividades como la promoción de las habilidades de investigación y el apoyo del plan de estudios. Además, el contexto en el que algunos institutos públicos de educación secundaria actúan hoy se debe a iniciativas comunitarias locales e internacionales.

Palabras clave: Líbano, bibliotecas de escuelas públicas, bibliotecarios escolares

**Faculty–librarian administrative structure and collaborative activities supporting teaching and research at Vietnamese universities: A qualitative study**

**Administración y actividades colaborativas entre profesores y bibliotecarios en las universidades vietnamitas**

**Thi Lan Nguyen, Kulthida Tuamsuk**

IFLA Journal, 47–2, 236–249

**Abstract** Este artículo analiza la estructura administrativa y las actividades colaborativas de los profesores y los bibliotecarios en universidades vietnamitas para evaluar su impacto sobre la enseñanza y la investigación, así como sus beneficios colaborativos, sus ventajas y sus desventajas. Los autores utilizaron un método cualitativo para determinar la situación de colaboración actual entre los profesores y los bibliotecarios, y realizó 29 entrevistas detalladas con participantes clave en las universidades vietnamitas. Los resultados indicaron que dicha colaboración se basaba normalmente en circunstancias personales de los colaboradores y que las asociaciones tenían que ver principalmente con la personalidad y las actitudes de los profesores de los distintos departamentos. Además, las universidades se centraban en las actividades colaborativas para promover la enseñanza y la investigación, diseñar el plan de estudios y fomentar actividades de apoyo a la investigación y desarrollo de colecciones. Los resultados de este estudio servirán a las partes interesadas de las universidades para revisar la eficacia y las limitaciones de las relaciones colaborativas.

**Palabras clave:** colaboración profesor–bibliotecario, bibliotecas académicas, servicios de apoyo a bibliotecas, actividades colaborativas en bibliotecas, administración colaborativa en bibliotecas, universidades vietnamitas

**Collections and services of public libraries in West Bengal, India: An evaluative study against the backdrop of the IFLA guidelines**

**Colecciones y servicios de las bibliotecas públicas de Bengala Occidental, India**

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IFLA Journal, 47–2, 250–262

**Abstract** El objetivo de este estudio era investigar la situación de las bibliotecas públicas municipales de Bengala Occidental (India). El estudio se centró en el personal y en los servicios en el marco de la política de desarrollo de colecciones. También se analizaron los problemas afrontados por los libreros y se sugirieron medidas para superar esas dificultades. Los investigadores utilizaron un enfoque de métodos mixtos (cuantitativo y cualitativo) para obtener los datos. Sin embargo, el medio principal de recopilación de datos fue un método de encuesta con un cuestionario estructurado. Además, se realizaron entrevistas con los bibliotecarios para aportar mayor subjetividad a los resultados. Los resultados indican que no se han creado comités de selección para contratar personal nuevo en diversas bibliotecas públicas; por lo tanto, las bibliotecas sufren escasez de personal. Debido a la grave escasez de personal, la base de datos de libros no se ha completado en el software de gestión de bibliotecas Libsys en ninguna de las bibliotecas estudiadas. Las bibliotecas públicas ofrecen una serie de servicios a sus usuarios. Por tanto, los servicios son el principal producto del sistema de bibliotecas públicas. Las conclusiones revelan que las bibliotecas estudiadas prestan distintos tipos de servicios, como servicios para niños, orientación profesional e información comunitaria, en beneficio de sus conjuntos de usuarios.

**Palabras clave:** IFLA, directrices sobre servicios de bibliotecas públicas, fondos bibliográficos, servicios bibliotecarios, bibliotecas públicas, Bengala Occidental, India

