Nnamdi Azikiwe University, Awka, Anambra State, Nigeria

E-mail: ok.udem@unizik.edu.ng ORCID ID: 0000-0003-0597-6435

# John Igbekele Ogungbeni

Lagos State University, Ojo, Lagos State, Nigeria

E-mail: john.ogungbeni@lasu.edu.ng ORCID ID: 0000-0001-9640-3127





# se of Mobile Technology-Based Library Services and Information Needs Satisfaction of Undergraduates in Universities in South-West Nigeria

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Obiora Kingsley Udem (PhD) is a Senior Lecturer and researcher at the Department of Library and Information Science, Nnamdi Azikiwe University, Awka, Anambra State. He holds a Bachelor of Education Degree (B.Ed.) in Library and Information Science, a Master's Degree in Library and Information Science (MLIS), and a PhD from Nnamdi Azikiwe University, Awka. He is a member of the Nigerian Library Association. He has written book chapters and articles for both reputable national and international journals. His areas of interest include ICT in libraries, information/digital literacy, social media, and digital libraries.

John I. Ogungbeni (PhD) is a Systems Librarian and Senior Lecturer in the Department of Library and Information Science, School of Library, Archival, and Information Science, Lagos State University, Ojo, Lagos. He holds a Bachelor of Science (Education) Degree in Physics from Obafemi Awolowo University, Ile-Ife; a Master of Science Degree

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in Information Science from the University of Ibadan, Ibadan; and a Doctor of Philosophy Degree in Library and Information Science from Nnamdi Azikiwe University, Awka. Dr. Ogungbeni has authored several articles in reputable journals. His areas of interest include ICT in libraries and research in academic libraries.

**eywords:** Mobile technology-based library services; Information needs satisfaction; University libraries; Undergraduates; Covid-19

# bstract

Aim: Users' satisfaction has been a subject of research since the establishment of the first university library in 1984, which signalled the commencement of the provision of information services to academic library users in Nigeria. However, empirical studies on the use of mobile technology-based library services in relation to students' information needs satisfaction are rare. Thus, there is a knowledge gap, and this study, therefore, sets out to fill this gap by investigating the use of mobile technology-based library services and information needs satisfaction among undergraduates in universities in South-West Nigeria.

**ethods:** The research design for the study was a survey, involving a multistage sampling technique. Two questionnaires (on the level of use of mobile technology-based library services and information needs satisfaction of undergraduates) were used to sample 1,086 undergraduates across three faculties at six universities in South-West Nigeria. 1,045 responses were analysed using descriptive statistics.

**esults:** The study found that some mobile technology-based library services were frequently used by undergraduates, while others were not. Most of the students expressed satisfaction with the services provided by their university libraries. The results of this study also showed that there is a highly positive relationship (Pearson r = 0.53) between the use of mobile technology-based library services and the information needs satisfaction of undergraduates in South-West Nigeria.

**onclusion:** This study concluded that with a good deployment of infrastructure, the provision of mobile technology-based library services will encourage their effective use by undergraduates and, consequently, a higher level of information needs satisfaction. The study recommended, among other things, that university library management should subscribe regularly to mobile technology-based library services to overcome some of the challenges posed by COVID-19.

#### Introduction

The information age, made possible by the advent of computers and other associated technologies, has made it inevitable for university students to search for online electronic information in a bid to satisfy their information needs. Online electronic information searching by university students is increasingly becoming a part of their academic lives. Academic libraries have always been sources of information for university students. Academic library information resources in Nigeria are partly delivered electronically, and the electronic components (such as information on flash disk, real-time access to online information by lecturers, and so on) are beginning to be incorporated into classroom work and course assignments (Haliso & Ogungbeni, 2014). The effectiveness of searching through academic library electronic resources may, therefore, affect the academic life of university students. Unfortunately, for many university students who have not done much online information searching before, searching for information using library electronic resources could be a daunting task.

The culture of universities and libraries influences university students' information needs and seeking behaviour. In other words, the students of those universities that always prioritise equipping their libraries with the latest and relevant information resources are normally satisfied with what they get from these libraries. At present, the information-gathering style of Nigerian students has been given a boost due to the web presence on university campuses in Nigeria and the prevalence of mobile devices (Okoh & Ijiekhuamhen, 2014). It is evident that as digital information resources proliferate, students are making fewer visits to university libraries to retrieve information. Many students no longer see university libraries as their main source of information when completing academic work, and they increasingly rely on the Internet as their primary information source (Biddix, Chung & Park, 2011; Zlatkin-Troitschanskaia, Hartig, Goldhammer & Krstev, 2021). The Internet provides citations to rich sources of readily available information materials for students in a similar way to that carried out in conventional sources, such as books and academic journals (Elsevier, 2022).

As the acquisition and use of portable electronic devices is on the increase among university students, librarians are coming up with innovations that will continue to make the library a preferred source of information needs satisfaction for library patrons. The outcome of such innovations has significantly popularised mobile technology-based library services. Mobile technology-based library services are services that are deployed on mobile applications and devices using the internet to meet the information needs of users. Today, such services include quick response (QR) codes, e-books, augmented reality, mobile websites, online public access catalogue (OPAC), mobile databases and short messaging services (SMS) that are provided by academic libraries and disseminated to students (Hyman, Moser & Segala, 2014). Mobile technology-based library services pro-

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vide avenues for librarians to be innovative in service provision; and also stimulate the interest of patrons in library services.

There are various aspects of information needs. For an individual, these various aspects can be economical, social, political, educational or cultural. Information need is, however, dependent mostly on the information seeking behaviour of the individual in need of information (Mierzecka & Suminas, 2016). And for undergraduates, they prioritise information that meets their educational needs most of the time when they search for information. Information needs satisfaction is a broad term, which involves the contentment that follows a set of actions that an individual, such as a university student, takes to express, seek, evaluate, select and finally use this information (Fatima & Ahmad, 2008). It is, therefore, described as an individual's fulfilment after gathering and obtaining information for personal use, knowledge updating and development.

Undergraduates need access to information in its different formats, including textbooks, journals and serials, amongst others. The various formats and sources are to serve as alternatives in meeting students' information needs. Information is needed by undergraduates for a variety of purposes and satisfying the needs of the students is a responsibility that university libraries must not approach with levity.

For most university libraries, the provision of mobile technology-based services has become increasingly important due to the demands of the 21st-century information users who want to find the technologies they are used to outside of the library, deployed by the library. It is, therefore, no longer novel to find electronic mobile websites, mobile databases, e-books, mobile OPAC, SMS, QR codes and library apps services in academic libraries.

The deployment of mobile technology-based library services became inevitable for university libraries in the wake of the outbreak of the Corona virus. This outbreak, which the World Health Organization (WHO) declared a pandemic on 11 March , 2020 (Balkhair, 2020), led to the shutdown of universities and, by extension, their libraries across the world for a period of not less than four months. As part of the "new normal" imposed on humanity by COVID-19, the provision of information services that would satisfy the needs of library patrons had to encompass an online delivery of information services. This study aimed to come up with findings that will help librarians and other professionals working in the university library deploy more services using mobile technology-based platforms.

#### **Aims**

The main objective of this study was to investigate the use of mobile technology-based library services and information needs satisfaction of undergraduates in universities in South-West Nigeria. Specifically, this study aimed to:

1. Determine the level of use of mobile technology-based library services

- by undergraduates in universities in South-West Nigeria;
- Ascertain the level of information needs satisfaction of undergraduates in universities in South-West Nigeria;
- Determine the relationship between the use of mobile technology-based library services and information needs satisfaction of undergraduates in universities in South-West Nigeria.

### **Research Questions**

The following research questions guided the study

- 1. What is the level of use of mobile technology-based library services by undergraduates in universities in South-West Nigeria?
- 2. What is the level of information needs satisfaction of undergraduates in universities in South-West Nigeria?
- 3. What is the relationship between the use of mobile technology-based library services and information needs satisfaction of undergraduates in universities in South-West Nigeria?

#### Literature Review

Information and communication technologies have made incursions into every aspect of university library operations, starting from their impact on the way university libraries process information, disseminate knowledge and interact with library materials and the way university library patrons seek and gain access to these materials (Kowalczyk, 2018), as a response to the recent global effect of infectious diseases on human endeavours. Following the outbreak of coronavirus infectious disease, university libraries have become aware of the inevitabilities of providing services using mobile technology-based library services. Mobile technologies have also changed the way library patrons search for information. Therefore, any university library that fails to put in place resources and facilities allowing it to adapt to the new ways of doing things will gradually decline in relevance in the business of providing information services to the members of the university community.

Information needs usually arise when a student wants to answer a question or solve a problem. The pursuance of the information need will be based on the types of materials that the student believes are suitable in the course of the student's study or research (Meho & Tibbo, 2001). Such materials may include electronic resources that the university library has provided and made available to the students. Students information needs are crucial in evaluating their satisfaction and quality of service provided for them, hence the design of information systems by university libraries from user perspectives (Bukar, Kimani & Namande, 2022).

Before designing a product, service or system, most university libraries routinely gather information about the needs and goals of the target users: students, faculty and non-faculty members (Pruitt & Adlin, 2006; Sasmito & Hidayattullah, 2021). Hiller (2001) stated that "if academic librarians are to realistically serve their students, they must recognize the changing needs and variations in information gathering and provide mobile technology-based library services that would be beneficial to users". In the same vein, King (2005) and Song (2009) harped on the fact that academic libraries should rebrand their services, collections and facilities to meet the rate of continuous change in information seeking behaviour, needs and expectations of students. This can be achieved through a thorough understanding of user information needs in order to provide successful information services by the deployment of information and communication technology (Zhang as cited in Ogungbeni & Nwosu, 2021).

The multiplicity of user-centred design (UCD), a design approach that focuses on the understanding of the needs and desires of the users rather than design aesthetics (Chammas, Quaresma & Mont'Alvao, 2015), has provided credence to the fact that users should be a vital part of design processes in order to create more usable and satisfying services such as mobile technology-based library services (Abras, Maloney-Krichmar & Preece, 2004). User-centred design objects optimise the usability of the designed products in such a way that they are tailored towards the ways in which users act rather than forcing users to change their ways in order to use the products (Kahraman, 2010). The development of mobile technology-based library services takes into consideration the obsession of most undergraduates with mobile devices. Most of the undergraduates in Nigeria, according to Tella, Olawuyi and Durodolu (2021), have mobile devices in the form of smartphones, laptops, palmtops, notebook computers, iPods and others. These mobile devices can only be put to optimal use with user-centred designed products like mobile technology-based library services.

This profound shift from talking about general users to the understanding and identification of the needs and goals of specific groups or individuals allows academic librarians to more effectively address user needs.

In a study on mobile web services in libraries, Wang, Ke, and Lu (2012) found that more and more university libraries have adopted existing mobile technologies to offer innovative services and that users would be encouraged to prioritise the library if previous experience yielded maximum satisfaction. Chen, Nurkhamid, Wang, Yang, Lue and Chang (2013), in a study titled "Digital Learning Playground: Supporting Authentic Learning Experiences in the Classroom", posited that using digital technologies in a university environment increases undergraduate information needs satisfaction.

Zaied (2012) carried out a study on an integrated success model for evaluating information systems in the public sector and found that perceived usefulness and users' satisfaction were strong influences on information system's success.

Baro, Onyenania and Osaheni (2010) conducted research on the information needs, sources and information searching strategies of undergraduate students and found that 65.6% of undergraduates were using internet-based library services to satisfy their information needs.

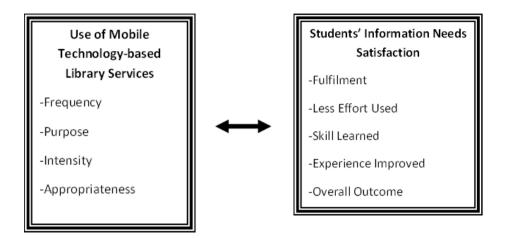


Figure 1. Conceptual framework of the use of mobile technology-based library services and information needs satisfaction.

Source: Made by Authors.

The two major variables in this study can perform the roles of both dependent or independent variables (Figure 1). The use of mobile technology-based library services is a function of frequency of use, purpose of use, intensity of use and appropriateness (Ogungbeni & Nwosu, 2021). The constructs that determine students' information needs satisfaction are fulfilment, less effort used, skill learned, experience improved and overall outcome.

# **Methods**

The research design adopted for this research study is the survey research design. 372,000 undergraduates (2019/2020 academic session) of the 42 universities in six states of South-West Nigeria constituted the population of this study. This figure, 372,000 are the additions of the populations of the 42 universities obtained from their various academic planning units. The multi-stage sampling technique was adopted to choose the sample for this study. A purposive choosing of six universities with one university per state was carried out. These universities are Ekiti State University, Ekiti State; Babcock University, Ogun State; Federal University of Technology, Akure, Ondo State; Bowen University, Osun State; University of Ibadan, Oyo State and Lagos State University, Lagos State. This

purposive selection included two federal universities, two state universities and two private universities. These universities were chosen because of their years of establishment and their developed state of information and communication technology infrastructures. The selected universities are those established not later than year 2001 and have Internet connectivity for their students.

Proportionate random sampling technique was used to choose 1.5% of the total population of undergraduates in each of the six universities. Proportionate random sampling method was considered suitable for the study because of the heterogeneous nature of the number of undergraduates in the six universities as some have large number of undergraduates, while others have not too large a number. The 1.5% fraction is considered adequate for this study, because Dierckx (2013) recommended that for an investigative study at 95% confidence level and high response rate, the sample size can be between 1% and 5% of the total population.

The sample for each university was chosen across three faculties (Arts/Engineering, Science and Social Science/Environmental Science) with each faculty having equal representation. These three faculties were chosen because they are common to the six universities. The samples in each faculty were chosen through a random sampling technique. The total sample size for this study amounted to one thousand and eighty-six (1,086). A total of one thousand and forty-five (1,045) responses were recorded yielding a response rate of 96.2%.

The instruments for data collection are researcher-designed 'use of mobile technologies' and 'students' information needs satisfaction' questionnaires. All items of the instrument for the 'use of mobile technologies' were measured using 'Daily,' '2-3 times in a week,' 'Once in a month,' 'Once in several months' and 'Not at all.,' while those of the instrument for 'information needs satisfaction' were measured using 'Very Satisfied,' 'Satisfied,' 'Undecided,' 'Dissatisfied' and 'Very Dissatisfied.'

To ensure that the instruments yielded valid data, they were assessed for face validity at the initial and modified versions. This was achieved by providing a draft of the questionnaire to an expert in the Departments of Library and Information Science and Measurement and Evaluation in the Faculty of Education, Nnamdi Azikiwe University, Awka. A copy of the draft was provided to them together with the topic of research, the purpose of the study and research questions. They were requested to critically examine the items in relation to content relevance, appropriateness of statements, the clarity of words and length of statements in relation to the purpose of study and research questions. The internal reliability of the final versions was then assessed and confirmed adequate through the following Cronbach's alpha test statistics: use of mobile technologies (0.762) and information needs satisfaction (0.841). Data obtained from the study were analysed using descriptive statistics. Mean rating and standard deviation were used for the analysed data obtained from research questions one

and two, while Pearson's correlation coefficients was used for the analysed data related to research question three. All analyses were computed using SPSS Computer Software Package.

#### Results

**Research Question 1:** What is the level of use of mobile technology-based library services by undergraduates in universities in South-West Nigeria?

Table 2. The use of mobile technology-based library services

Frequency of use	Mobile Web- site	E-book	Mobile Data- base	QR Code	Library App	SMS	Mobile OPAC	Aug- mented Reality
Not at all	417	312	501	692	524	436	459	863
	(39.9%)	(29.9%)	(47.9%)	(66.2%)	(50.1%)	(41.7%)	(43.9%)	(82.6%)
Once in sev-	83	103	124	63	143	0	166	70
eral months	(7.9%)	(9.9%)	(11.9%)	(6.0%)	(13.7%)	(0.0%)	(15.9%)	(6.7%)
Once in a	125	126	126	42	84	84	105	42
month	(12.0%)	12.1%)	(12.1%)	(4.0%)	(8.0%)	(8.0%)	(10.0%)	(4.0%)
2-3 in a	252	294	147	186	189	147	231	68
week	(24.1%)	(28.1%)	(14.1%)	(17.8%)	(18.1%)	(14.1%)	(22.1%)	(6.5%)
Daily	168 (16.1%)	210 (20.1%)	147 (14.1%)	62 (5.9%)	105 (10.0%)	378 (36.2%)	84 (8.0%)	2 (0.2%)
Total	1045 (100%)	1045 (100%)	1045 (100%)	1045 (100%)	1045 (100%)	1045 (100%)	1045 (100%)	1045 (100%)

The mobile technology-based library service that is frequently used on a daily basis by undergraduates in universities in South-West Nigeria, as indicated in Table 2, is SMS (36.2%), followed by e-book (20.1%), mobile website (16.1%), mobile database (14.1%), library app (10.0%), mobile OPAC (8.0%), QR code (5.9%) and augmented reality (0.2%). In terms of the services the undergraduates have never used, 82.6% have never used augmented reality, 66.2% have never used QR code, 50.1% have never used library apps, 47.9% have never used mobile databases, 43.9% have never used mobile OPAC, 41.7% have never used SMS, 39.9% have never used mobile websites and 29.9% have never used e-books.

**Research Question 2**: What is the level of information needs satisfaction of undergraduates in universities in South-West Nigeria?

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Table 3. Information Needs Satisfaction

	N	Minimum	Maxi-	Mean	Std.
	' '	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	mum	Modif	Deviation
Workshop information	1045	1.00	5.00	2.2086	1.41032
Course registration information	1045	1.00	5.00	3.5483	1.36837
Student time table	1045	1.00	5.00	3.1904	1.40576
Career prospects resources	1045	1.00	5.00	2.3086	1.20858
Social interaction plat- forms on university websites	1045	1.00	5.00	2.1699	1.30952
Resources for assignment (electronic)	1045	1.00	5.00	3.6900	1.24858
Resources for study (electronic)	1045	1.00	5.00	3.9880	1.17031
Resources for semi- nar (electronic)	1045	1.00	5.00	3.4880	1.17977
Group discussion platform	1045	1.00	5.00	2.3292	1.28309
Resources for research (electronic)	1045	1.00	5.00	3.7493	1.17048
Material for assign- ments (print)	1045	1.00	5.00	3.9301	1.16950
Materials for study (print)	1045	1.00	5.00	3.9703	1.17121
Valid N (listwise)	1045				

The level of information needs satisfaction of undergraduates in universities in South-West Nigeria is represented in Table 3. In terms of electronic resources for study, the students expressed a level of satisfaction with them (Mean=3.98). They also expressed satisfaction with electronic resources for seminar (Mean=3.48), information on course registration (Mean=3.54), electronic resources for assignments (Mean=3.69), electronic resources for research (Mean=3.74), printed materials for study (Mean=3.97). The students, however, expressed dissatisfaction with information need on workshop (Mean=2.20), career prospects (Mean=2.30), platforms on websites for social interaction (Mean=2.16) and platform for group discussions (Mean=2.32).

Table 4. Pearson r on the relationship between the use of mobile technology-based library services and information needs satisfaction

Source of Variation	N	Use of Mobile Technolo- gy-based Lib Services	Information needs satis- faction	Remarks	
Use of Mobile Technology-based Lib Services	1045	1	.58	I limb moditive	
Information needs satisfaction	1045	.58	1	High positive relationship	

#### Correlations

		Use of Mobile	Students'	
	Control Variables	Technolo-	Information	
	Contion variables	gy-based Lib	Needs	
		Services	Satisfaction	
Students Faculties	Use of Mobile Technology-based Lib Services	Correlation	1.000	.53
		Significance (2-tailed)		.085
		df	0	1042
	Students' Information Needs Satisfaction	Correlation	.53	1.000
		Significance (2-tailed)	.085	
		Df	1042	0

The result of the analysis of the relationship between the composite scores of use of mobile technology-based library services and composite scores of information needs satisfaction of undergraduates is shown in Table 4. The result shows that there is a high positive relationship between the use of mobile technology-based library services and information needs satisfaction of undergraduates in South-West Nigeria.

#### Discussion

Findings showed that the level of use of mobile technology-based library services by undergraduates in universities in South-West Nigeria was high, with e-books, mobile websites, short messaging services, mobile OPAC and mobile databases being used often. However, the level of use of augmented reality, QR codes and library apps was very low among the undergraduates in universities in South-West Nigeria. Wang, Ke and Lu (2012) opined that the level of use of

mobile technology-based library services will be high if users derive maximum satisfaction from the previous use. Another possible reason for the high level of use of mobile technology-based library services is the level of awareness of undergraduates. Chen, Nurkhamid, Wang, Yang, Lue and Chang (2013) opined that the lack of user education inhibits the use of mobile technology-based library services as users who are well sensitised to the availability and use of mobile technology-based library services become more satisfied when they search for information.

While the promotion of libraries beyond borders through the provision of mobile technology-based library services intensifies among library patrons, it is pertinent to let librarians and those who are saddled with the responsibilities of providing information and communication technology facilities on university campuses know that it is compulsory to provide these services in this era of a "new normal". The "new normal" imposed by the outbreak of COVID-19 is making it inevitable for academic institutions to deploy instructions to learners using online platforms.

Concerning the information students obtain from their university libraries to meet their academic information needs, the result from research question two indicates that the students expressed satisfaction with most of the information. University libraries in Nigeria have elevated their services in the field of meeting the information needs of their users, who are predominantly undergraduates. This is in a bid to remain a major source of information to undergraduates and maintain their relevance within the university community. This agrees with a study by Zaied (2012), who posited that their use and user satisfaction are vital and non-negligible variables in the assessment of the effectiveness of libraries' e-services.

The result from research question three reveals that there is a highly positive relationship between the use of mobile technology-based library services and the information needs satisfaction of undergraduates in South-West Nigeria. Undergraduates in South-West Nigeria use mobile technology-based library services in direct proportion to the satisfaction of their information needs. This result is expected, because we are living in an age where mobile devices have become sine qua non in the lives of young people (undergraduates). Undergraduates, most of whom are digital natives, rely on mobile technology-based platforms for their information needs. The result of research question three is in agreement with the findings of Baro, Onyenania and Osarehin (2010) that 65.6% of undergraduates were using internet-based library services for their information needs satisfaction.

#### Conclusion

The positive relationship between the use of mobile technology-based library services and information needs satisfaction of undergraduates in universities in South-West Nigeria, as revealed by this study, has provided an empirical

basis for practice. This implies that the infrastructures for the deployment of mobile technology-based library services must be very efficient. With a good deployment of an infrastructure, the provision of mobile technology-based library services will encourage an effective use of the services by undergraduates and, consequently, a higher level of information needs satisfaction.

The management of university libraries should ensure that mobile technology-based library services are provided with adequate information and communication technology tools subscribed to regularly as this will encourage undergraduates to constantly engage in the use of mobile technology-based library services.

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#### **Obiora Kingsley Udem**

Nnamdi Azikiwe University, Awka, Anambra State, Nigeria

E-mail: ok.udem@unizik.edu.ng ORCID ID: 0000-0003-0597-6435

# John Igbekele Ogungbeni

Lagos State University, Ojo, Lagos State, Nigeria

E-mail: john.ogungbeni@lasu.edu.ng ORCID ID: 0000-0001-9640-3127

# Korzystanie z bibliotecznych usług mobilnych a zaspokojenie potrzeb informacyjnych studentów pierwszego stopnia uniwersytetów w południowo-zachodniej Nigerii

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Obiora Kingsley Udem (PhD) jest starszym wykładowcą i badaczem na Wydziale Bibliotekoznawstwa i Informacji Naukowej, Uniwersytet Nnamdi Azikiwe, Awka, Anambra State. Posiada tytuł licencjata edukacji (B.Ed.) w dziedzinie bibliotekoznawstwa i informacji naukowej, tytuł magistra bibliotekoznawstwa i informacji naukowej (MLIS) oraz doktorat zdobyt na Uniwersytecie Nnamdi Azikiwe w Awka. Jest członkiem Nigeryjskiego Stowarzyszenia Bibliotek. Jest autorem rozdziałów książek i artykułów zarówno dla renomowanych czasopism krajowych, jak i międzynarodowych. Jego obszary zainteresowań obejmują technologie informacyjno-komunikacyjne w bibliotekach, umiejętności informacyjne/cyfrowe, media społecznościowe i biblioteki cyfrowe.

John I. Ogungbeni (PhD) jest bibliotekarzem systemowym i starszym wykładowcą na Wydziale Bibliotekoznawstwa i Informacji Naukowej, School of Library, Archival, and Information Science, Lagos State University, Ojo, Lagos. Posiada tytuł licencjata fizyki (edukacja) uzyskany na Uniwersytecie Obafemi Awolowo w Ile-Ife; tytuł magistra informatyki uzyskany na Uniwersytecie w Ibadanie, Ibadan; oraz tytuł doktora filozofii w dziedzi-

nie bibliotekoznawstwa i informacji naukowej zdobyty na Uniwersytecie Nnamdi Azikiwe w Awka. Dr Ogungbeni jest autorem kilku artykułów w renomowanych czasopismach. Jego obszary zainteresowań obejmują technologie informacyjno-komunikacyjne w bibliotekach oraz badania naukowe w bibliotekach akademickich.

S

**łowa kluczowe:** usługi biblioteczne oparte na technologii mobilnej; zaspokojenie potrzeb informacyjnych; biblioteki uniwersyteckie; studenci pierwszego roku; Covid-19

# S

#### treszczenie

el: Zaspokojenie potrzeb użytkowników jest przedmiotem badań od czasu utworzenia pierwszej biblioteki uniwersyteckiej w 1984 r., co zasygnalizowało rozpoczęcie świadczenia usług informacyjnych dla użytkowników bibliotek akademickich w Nigerii. Jednakże badania empiryczne dotyczące korzystania z usług bibliotecznych opartych na technologii mobilnej w odniesieniu do zaspokojenia potrzeb informacyjnych studentów są rzadkie. W związku z tym istnieje luka w wiedzy, a niniejsze badanie ma na celu wypełnienie tej luki poprzez zbadanie wykorzystania usług bibliotecznych opartych na technologii mobilnej i zaspokojenia potrzeb informacyjnych wśród studentów uniwersytetów w południowo-zachodniej Nigerii.

M

etodyka: Projekt badania był ankietą, obejmującą wieloetapową technikę próbkowania. Dwa kwestionariusze (dotyczące poziomu wykorzystania usług bibliotecznych opartych na technologii mobilnej i zaspokojenia potrzeb informacyjnych studentów) wykorzystano do badania na próbce 1086 studentów z trzech wydziałów na sześciu uniwersytetach w południowo-zachodniej Nigerii. Przeanalizowano 1045 odpowiedzi przy użyciu statystyk opisowych.

W

yniki: Badanie wykazało, że niektóre usługi biblioteczne oparte na technologii mobilnej były często używane przez studentów, podczas gdy inne nie. Większość studentów wyraziła zadowolenie z usług świadczonych przez biblioteki uniwersyteckie. Wyniki tego badania wykazały również, że istnieje bardzo pozytywny związek (Pearson r = 0,53) między korzystaniem z mobilnych usług bibliotecznych opartych na technologii a zaspokojeniem potrzeb informacyjnych studentów w południowo-zachodniej Nigerii.

 $\overline{\mathbf{W}}$ 

nioski: W badaniu tym stwierdzono, że przy dobrym wdrożeniu infrastruktury, świadczenie usług bibliotecznych opartych na technologii mobilnej zachęci studentów do efektywnego korzystania z tych usług, a w konsekwencji poziom zaspokojenia potrzeb informacyjnych wzrośnie. W badaniu zalecono między innymi, aby kierownictwo bibliotek uniwersyteckich regularnie subskrybowało usługi biblioteczne oparte na technologii mobilnej, aby przezwyciężyć niektóre wyzwania związane z COVID-19.

#### **Obiora Kingsley Udem**

Nnamdi Azikiwe Universität, Awka, Bundesstaat Anambra, Nigeria

E-Mail: ok.udem@unizik.edu.ng ORCID ID: 0000-0003-0597-6435

### John Igbekele Ogungbeni

Universität des Bundesstaates Lagos, Ojo, Bundesstaat Lagos, Nigeria

E-Mail: john.ogungbeni@lasu.edu.ng ORCID ID: 0000-0001-9640-3127

# Nutzung von mobiltechnologiebasierten Bibliotheksdiensten und Erfüllung der Informationsbedürfnisse von Bachelorstudenten an Universitäten im Südwesten Nigerias

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Dr. Obiora Kingsley Udem ist Seniorlehrer und wissenschaftlicher Mitarbeiter am Lehrstuhl für Bibliotheks- und Informationswissenschaft der Nnamdi Azikiwe Universität in Awka, Nigeria. Er hat einen Bachelorabschluss in Bibliotheks- und Informationswissenschaft, einen Masterabschluss im selben Bereich und einen Doktortitel von derselben Universität. Er ist Mitglied des Nigerianischen Bibliotheksverbands (Nigerian Library Association), Autor von Beiträgen in Sammelbänden und in den inländischen und internationalen Zeitschriften. Sein Forschungsinteresse umfasst Informations- und Kommunikationstechnologien (ICT) in den Bibliotheken, Informations-/Digitalalphabetisierung, soziale Medien und Digitalbibliotheken.

Dr. John I. Ogungbeni ist ein Systembibliothekar und Seniordozent am Lehrstuhl für Bibliotheks- und Informationswissenschaft an der School of Library, Archival, and Information Studies an der Universität des Bundesstaates Lagos (Ojo, Lagos). Er hat einen Bachelorabschluss in Physik von der Obafemi Awolowo Universität in Ile-Ife, einen Masterabschluss in Informationswissenschaft von der Universität in Ibadan und einen Doktortitel

in Bibliotheks- und Informationswissenschaft von der Nnamdi Azikiwe Universität in Awka. Dr. Ogungbeni ist Autor mehrerer Artikel in angesehenen Fachzeitschriften. Seine Interessen umfassen Informations- und Kommunikationstechnologien (ICT) in Bibliotheken sowie wissenschaftliche Forschung in akademischen Bibliotheken.

**chlüsselworte:** mobiltechnologiebasierte Bibliotheksdienste; Erfüllung der Informationsbedürfnisse; Universitätsbibliotheken; Bachelorstudierende; COVID-19

# usammenfassung

iel: Die Zufriedenheit der Nutzer ist seit der Gründung der ersten Universitätsbibliothek im Jahr 1984 Gegenstand von Forschungsarbeiten, was den Beginn der Bereitstellung von Informationsdiensten für Nutzer in akademischen Bibliotheken in Nigeria signalisierte. Dennoch sind empirische Untersuchungen zur Nutzung von mobiltechnologiebasierten Bibliotheksdiensten im Zusammenhang mit der Erfüllung der Informationsbedürfnisse von Studierenden selten. Es besteht also eine Wissenslücke, und daher zielt diese Studie darauf ab, diese Lücke zu schließen, indem sie die Nutzung von mobiltechnologiebasierten Bibliotheksdiensten und die Erfüllung der Informationsbedürfnisse von Studierenden an Universitäten im Südwesten Nigerias untersucht.

orschungsmethode: Die Studie basiert auf einer Umfrage, die eine mehrstufige Stichprobenauswahltechnik verwendete. Für die Stichprobe wurden 1086 Studenten von drei Fakultäten an sechs Universitäten im Südwesten Nigerias ausgewählt und zwei Fragebögen verwendet (einer zur Erfassung der Nutzung von mobiltechnologiebasierten Bibliotheksdiensten und einer zur Erfassung des Informationsbedarfs der Studenten). Insgesamt wurden 1045 Antworten mittels deskriptiver Statistik analysiert.

**orschungsergebnisse:** Die Studie ergab, dass Bachelorstudenten oft einige mobiltechnologiebasierten Bibliotheksdienste nutzten, während sie andere weniger in Anspruch nahmen. Die meisten Studenten zeigten sich zufrieden mit den Dienstleistungen ihrer Universitätsbibliotheken. Die Ergebnisse zeigten auch, dass es eine hochpositive Korrelation (Pearson r = 0,53) zwischen der Nutzung von mobiltechnologiebasierten Bibliotheksdiensten und der Erfüllung der Informationsbedürfnisse der Bachelorstudenten im Südwesten Nigerias gibt.

chlussfolgerung: Nach der Studie würde eine effektive Bereitstellung von mobiltechnologiebasierten Bibliotheksdiensten bei entsprechender Infrastruktur dazu beitragen, die Nutzung dieser Dienste durch Studenten zu verbessern und somit den Informationsbedarf effizienter zu decken. In der Studie wurde unter anderem empfohlen, dass die Leitung der Universitätsbibliotheken regelmäßig mobiltechnologiebasierte Bibliotheksdienste abonniert, um einige der Herausforderungen im Zusammenhang mit der Covid-19-Pandemie zu bewältigen.