Analysis of empathy of digital institutional repository service provision at selected universities in Meru County

Sophia Mjeni Tsenga[1]*, Paul Maku Gichohi[1]

[1]Kenya Methodist University, P.O. Box 267-60200, Meru, Kenya

*Correspondence email: tsengasophy@gmail.com

Abstract

Postgraduate students consult institutional repository services continuously in course of doing their research and scholarship journey. The provision of digital institutional repository services in libraries is therefore, expected to be professional, with customer-centred orientation. Careful consideration ought to be made to ensure the needed repository services are readily available. In these circumstances, empathy is showcased by the perceived usefulness of repository services through allowing virtual and multiple accessibility. In spite of that, post-graduate students detaching from accessing IR services continue to become common. This article aimed to assess the empathy of digital institutional repository service provision at selected universities in Meru County. Using the SERVQUAL model, the study adopted convergent embedded research design of mixed methods. The target population was 910 respondents; comprised students and library heads of sections. Purposive sampling and simple random sampling techniques were used in drawing a sample size of 101 respondents, which comprised 10 head of section-librarians, and 91 post-graduate students. Data was collected by means of questionnaires and interview schedule for the students and the librarians respectively. The reliability of research instruments was ascertained using Chrobach alpha coefficients. Quantitative data was analysed using SPSS, and then computed using descriptive and inferential statistics, while the qualitative data was analysed thematically. The findings of the study indicated that, empathy level in the institutional repository was satisfactory. Empathy was supported by staff: listening keenly to student's needs, offering timely solutions where needed, integrity, openness, honesty, work ethics, code of conduct and also short procedures for retrieving information materials in the repository. However, results indicated lack of notifications when new documents are published, and failure of the repository website to remind a student on previous searches. Consequently, system librarians in collaboration with universities' ICT manager should add retrieval and notification features in the DSpace software.

Keywords: *Empathy, Post-graduate students, SERVQUAL model, institutional repositories, service provision, university libraries*

1.0 Introduction

Digital institutional repository services are significant channels for disseminating scholarly research by faculty and learners (Asadi et al., 2019). They also promote open access, interoperability, visibility of the university, citation impact and are centralized platforms for research sharing, accessibility and preservation (Rafiq, 2022). The repositories are also relied upon by post-graduate students for citation and referencing, plagiarism compliance, barrier-less deposit of university literature, and information communication (Bashir et al., 2022). Therefore, digital institutional repository services significance are manifold and this points clearly to the need for configuration of institutional repository to serve the intendant users. Consequently, the University management must prioritize investment to enhance service provision (Zibani et al., 2022).

Digital institutional repository service provision revolves around acquisition, research management, dissemination and electronic storage of university-owned grey literature and research documents (Zibani et al., 2022). Improved service provision requires strong management support, workable IR policies, user-centred design, employee empowerment, sustainable funding, customer care and technical assistance (González-Pérez et al., 2021). Established criteria for service provision include readily accessible services, timely, responsive website, easy information find-ability, and easy procedure for depositing items (Fernández-Ramos & Barrionuevo, 2021). These aspects implore the need to explore service quality aspects in order to heighten the institutional repositories' value, triggering the investigation of the empathy of digital institutional service provision.

Globally, nations invest in repositories for research growth, emphasizing service delivery, technologies and software for their management (Luther, 2018). In the United Kingdom, successful models for enhancing DIRs services stress effective funding, human capacities and deployment of material resources (Callicot et al., 2015). Strategies like prioritizing customers' experiences, marketing orientation, user friendly links, directive icons and friendly interfaces contribute to heightened DIR service provision (Saini, 2018). Furthermore, policies adopted for running digital institutional repositories address important facets on faculty trainings and customer handling measures, which to a large extent, contribute to quality service delivery (Cox, 2016). However, Asiatic countries including Malaysia, Pakistan and India faculty and students lack the interest and the pleasure in accessing repository services (Lagzian et al., 2015).

In Africa, international knowledge sharing, institution identification and intellectual output preservation are perceived benefits of implementing DIRs. Nevertheless, creating awareness on the services, use of open source software and technology solutions contribute to heightened service delivery (Ejikeme & Ezema, 2019; Okoroma, 2018). Further, established institutional repositories are encountering difficulties and inefficiencies in service delivery (Ezema & Onyancha, 2017; Anenene et al., 2017). Pursuant mechanisms

in South Africa, Zimbabwe and Nigeria emphasizes grant funding, awareness of plagiarism and academic integrity matters, and professional development for library workers for enhancing trainee skills (Mutsvunguma, 2019; Tapfuma & Hoskins, 2019).

In Kenya, the repository service provision faces challenges; thereby, necessitating strategies for enhancing it (Kakai, 2018; Mwiti, 2017). Empathy is crucial in enhancing service rendering, especially in Meru County, where low DIR service provision persists (Mwiti, 2017). Lack of empathy in DIR results in user disengagement with the repository, mainly due to inaccessibility of the site, and customer dissatisfaction, posing challenges to effectiveness of DIRs (Parasuraman and Berry, 1988).

Statement of the Problem

Digital institutional repositories (DIR) are indispensable avenues to preserve, market, disseminate, capture, store and manage scholarly outputs. To sustain them, Universities in Meru County have adopted the DSpace, an open access repository software, to preserve and disseminate their open access research contents. The universities have developed digital institutional repository policies to guide the operationalization, management, dissemination and preservation of the university scholarly output. The university management also allocates funds to upgrade infrastructure, employ human resources to achieve effective management of services (Mwiti, 2017). While digital institutional repositories exist, effective service provision

to the university community remains a challenge, despite policy and support measures. This challenge is evidenced by post-graduate students' detachment from accessing IR services (Kakai, 2018). The study sought to address this gap by assessing the empathy of digital institutional repository service provision at selected universities in Meru County, Kenya.

The study concludes that empathy is effectively demonstrated by staff through attentive listening to students' needs, providing timely assistance, adhering to work ethics and the code of conduct, and ensuring streamlined

Research Objective

To determine the empathy of digital institutional repository service provision at selected universities in Meru County.

Research Question

What is the level of empathy of digital institutional repository service provided at selected universities in Meru County?

Literature Review

Empathy is expressed where a customer feels a sense of security, love, care, acknowledgement, attention and respect when being guided or being served (Parasuraman et al., 1985). In the digital repository, remote and multiple accessibility of resources, turnaround time for repository

search results, and twenty four clock basis availability of services showcases empathy (Fuller et al., 2023). It is also demonstrated when service points are opened at hours convenient for all customers. When library patrons perceive individual attention, company language keeps customer's interest at heart and their needs are both understood and satisfactorily met, the customers perceive their service to have empathy (Saulus et al., 2017). Empathy is also experienced through navigable websites, downloadable documents, and system notifications whenever new articles are published (Fuller et al., 2023).

Empathy in digital institutional repositories may be developed through an empathetic institutional culture, positive organizational culture and good leadership (Lee & Hong, 2022). It may also be stimulated by internal communication systems, prioritizing user needs, and through an employer winning the employees' loyalty and trust (Adeyeye & Babalola, 2022). Some benefits such as library performance, attaining emotional intelligence, effective library leadership, user needs satisfaction, and improved organizational corporate image are attained due to empathetic service (Lee & Hong, 2021).

Globally, the context of empathy in digital institutional repository service provision, records both diverse challenges and success stories. In Europe, empathy among the digital repository e-services was expressed through the ability of the websites to serve a big number of people at the same time, and the readily availability of the customer care operator (Psoma, 2020). Swaziland's equate

the usability of repository services to regular service quality, assessments and conducting usability studies (Saulus et al., 2017). Southeast Asia and Malaysia demonstrate varying strategies for enhancing service quality in repositories, emphasizing the critical role of funding, user-centred methods and technological adaptation (Lagzian et al., 2015).

In Africa, South Africa needs to work on empathetic leadership of university librarians, to overcome stances of librarians' frustrations, overwhelms and anxiousness due to frustrating technologies (Semo & Frissa, 2020). Libraries in Nigeria face customer care management and ICT infrastructure challenges, requiring them to implement the code of conducts, and a dedicated funding model in order to heighten empathy of services (Adeyeye & Oladokun, 2023). Uganda struggles with rigid quick links and long guiding procedures that hinder easy navigation of library sites (Bushman et al., 2021). However, Nigerian reactive plan, such as developing librarians' professionalism, is ensuring high level of competence which resolves cases of antipathy (Goshie et al. (2018).

Libraries in Kenya value customer care services; and therefore, the contributions of empathy cannot be overemphasized. However, the state of empathy and service provision is deplorable and unexplored. Available studies have investigated the challenges, technology and usability of digital institutional repositories (Ratanya & Muthee, 2018; Nunda, 2019; Kakai, 2018).

This paper, guided by the SERVQUAL model by Valarie, Parasuraman and Berry in

1985, assesses the service provision among digital institutional repositories. The model maintains that tangibles, reliability, responsiveness, courtesy, empathy, credibility, security, accessibility, communication, and understanding customer needs qualify services rendered. SERVQUAL model informs how empathy informs quality service provision.

2.0 Materials and Methods

The study adopted a mixed-method research approach and a convergent embedded research design. It targeted Meru University of Science and Technology and Kenya Methodist universities in Meru County, 900 post-graduate students and 10 head-of section librarians. The study sampled 91 post-graduate students using 10% threshold as guided by Mugenda and Mugenda (2003) and all the 10 head-of section librarians. Stratified and simple random sampling techniques helped obtain the students sample, while purposive sampling technique was used to include the librarians. The research instruments incorporated in the study included post-graduate students' questionnaire and the librarians' interview schedule. A pre-test was conducted in Embu University in Embu County. The study ascertained the research instruments' content, construct and face validity. Reliability was confirmed by computing Cronbach's alpha coefficients in SPSS. Quantitative data was analysed descriptively to get mean and frequencies and Pearson correlation. Thematic analysis was applied to present and describe qualitative data**.**

3.0 Results and Discussion

Results on reliability, response rate and the main objective being investigated are presented in that order.

Results on Reliability Tests

The reliability test was conducted, and Cronbach's Alpha coefficient of 0.891 was computed. According to Bryman and Bell (2011), data which presents a Cronbach's alpha values greater than .700 is satisfactory to be utilized in analysis.

Response Rate

91 questionnaires were administered to post-graduate students, and when the returned ones were checked, 67(73.0%) were valid for informing the study. Nine interviews were carried out with the head of section librarians since the tenth one was unavailable. The interviews recorded a 90% response rate. This translated to 75.2% overall response rate for the study. These findings agree with the recommendation put across by Mugenda and Mugenda (2003) that, a response rate of 70% and above is an excellent representation of the study respondents.

Demographic Information

The study's findings on the demographic characteristics of respondents noted that there were slightly more female post-graduate students, 34(50.7%), than male, 33(49.3%). This implied a balanced student population at the universities in Meru County. The study further noted that nearly three quarter of students 48(71.6%) were pursuing their masters degrees; 10(14.9%) doing post-graduate diploma and the least 9(13.4%) were pursuing doctorate degrees. In

agreement, at St. Paul's University, Wangui (2018) observed that, two thirds of the population comprised of masters students and only about a quarter were PhD students. On working experience, 4(44.4%) head of section librarians had worked between 5 and 10 years, and 3(33.3%) 10 years and above. Only 2(22.2%) had served between 1 and 5 years. This meant that, librarians who took part in the interview had adequate experience on service provision in digital institutional repositories among university libraries, hence surfaced the study.

Empathy of Digital Institutional Repository Serice Provision

Post-graduate students responded to the statements by choosing their best opinions in a 5-level Likert rating scale where, 5 represented VLE = very large extent, 4 for LE= large extent, 3 ME= moderate extent, 2 SE = small extent and 1 VSE= very small extent. For interpretation, very large extent and large extent was summed up to represent the agreement status, while very small extent and small extent was summed up to represent the disagreement status concerning empathy of digital institutional repository service provision. Table 1 summarizes the findings.

Table 1

Descriptive Results on Empathy

Statements on empathy (N=67)	VSE(1)	SE(2)	ME(3)	LE(4)	VLE(5)	Mean	Std. Deviation
The staff in charge of the repository section give me individual attention when I visit the section	0	5(7.5%)	13(19.4%)	25(37.3%)	24(35.8%)	4.01	.929
The repository opening and closing hours are convenient for me	0	12(17.9%)	27(40.3%)	15(22.4%)	13(19.4%)	3.43	1.003
The repository section has best interest for their customers at heart	0	3(4.5%)	15(22.4%)	31(46.3%)	18(26.9%)	3.96	.824
My information needs are usually understood	1(1.5%)	3(4.5%)	18(26.9%)	35(52.2%)	10(14.9%)	3.75	.823
My information needs are usually attended to well	0	5(7.5%)	20(29.9%)	24(35.8%)	18(26.9%)	3.82	.920
I can assess the repository at any	1(1.5%)	8(11.9%)	14(20.9%)	29(43.3%)	15(22.4%)	3.73	.994

given time and place with my mobile phone or laptop						
The procedure for accessing information resources is brief and uncomplicated	0	6(9.0%)	27(40.3%)	27(40.3%)	7(10.4%)	3.52	.804
The repository enable me to save my search results for future references	8(11.9%)	6(9.0%)	23(34.3%)	24(35.8%)	6(9.0%)	3.21	1.122
The website has features for reminding and suggesting documents based on previous searches	10(14.9%)	19(28.4%)	21(31.3%)	12(17.9%)	5(7.5%)	2.75	1.146
I get notifications on new documents uploaded in the repositories	21(31.3%)	20(29.9%)	20(29.9%)	6(9.0%)	0	2.16	.979
The repository manager cares about my information needs	2(3.0%)	7(10.4%)	14(20.9%)	36(53.7%)	8(11.9%)	3.61	.937
The repository manager is concerned about my information needs	2(3.0%)	5(7.5%)	14(20.9%)	32(47.9%)	14(20.9%)	3.76	.971

Table 1 shows that post-graduate students agreed with most of the statements on empathy of digital institutional repository services, represented by a mean of 3.4 for most sentiments. The respondents strongly agreed that individual attention is given to customers (mean = 4.01), the staff's best interest to serve repository users (mean = 3.96), well attending to customer information needs (mean = 3.82), individual concern of customer's needs (mean= 3.76), and good concern about customers' needs (mean = 3.75). The results are further indicating that, the state of empathy was satisfactory. These results are appreciating the role of an institutional repository manager in providing appropriate services to students at university libraries.

The findings are also indicating that the respondents did not get notifications when new documents were published, the repository website failed to remind a student on previous searches, and also the website lacked an option to save downloaded items for future reference. This indicates that the level of empathy on these aspects was low, and this would affect their perceptions towards the digital institutional repository. These findings were not consistent with the report of Goshie et al. (2018) who reported that in Nigeria, ICT technologies had enabled learners to have remote access, download, choose preferences when searching, and reminding options of previous searches done by an information seeker.

When post-graduate students were asked in an open-ended question to suggest what should be done to make digital institutional repository services empathetic, they provided suggestions which were themed. These were: ensuring daily function-ability of the repository page, providing a repository user guide, shift to newer versions of the Dspace software, and implement staff training and professional development. Moreover, student 59 wrote *"The library should organize for training for both staff and post-graduate students"*. For the case of the librarians, they ensured empathy through adhering to library policies and guidelines, staff code of conduct and ethical standards. One head of section librarian added *"We usually check our dressing code and also abide by working ethics"* (L 08).The suggestions inferred a need to check the function-ability of the repository webpage and link regularly, having quick access user guides and training the repository staff. The findings also reflected a need for the repository software to be upgraded to the latest version to enhance retrieval features.

Moreover, during interviews librarians were requested to explain the influence of empathy in institutional repositories. Empathy was reported to influence digital repository service provision by increasing the access and usage of the site. Also, it promoted quality research and standardization, meeting of customer needs, better understanding of customer needs, enhances staff approachability, and increases staff responsiveness. In support, Adeyeye and Oladokun (2023) noted that empathy determined the achievement of responsiveness and customer loyalty.

Digital Institutional Repository Service Delivery Provision

To determine the digital institutional repository service provision, sentiments were posed to the post-graduate students based on the identified service indicators. These included; reliability, responsiveness, tangibility, empathy, assurance, infrastructure and facility adequacy, librarian's etiquette, accessibility of services and timeliness in service provision. Post-graduate students responded to the statements by choosing their best opinions in a 5-level Likert rating scale where, 5 represented VLE = very large extent, 4 for LE= large extent, 3 ME= moderate extent, 2 SE = small extent and 1 VSE= very small extent. For interpretation, very large extent and large extent was summed up to represent the agreement status, while very small extent and small extent was summed up to represent the

disagreement status concerning empathy of digital institutional repository service provision. Table 2 summarizes the findings.

Table 2

Digital institutional repository service provision

Statements on service delivery in DIRs (N=67)	VSE(1)	SE(2)	ME(3)	LE(4)	VLE(5)	Mean	Std. Deviation
Reliability of IR increase user satisfaction in our institution	1(1.5%)	1(1.5%)	9(13.45)	33(49.3%)	23(34.3)	4.13	.815
Responsiveness of IR increase user satisfaction in our institution	0	5(7.5)%	10(14.9%)	31(46.3%)	21(31.3%)	4.01	.879
Tangibility of IR increase user satisfaction in our institution	1(1.5%)	4(6.0%)	13(19.4%)	25(37.3%)	24(35.8%)	4.00	.969
Empathy of IR service increase user satisfaction in our institution	1(1.5%)	4(6.0%)	12(17.9%)	25(37.3%)	25(37.3%)	4.03	.969
Assurance of IR service increase user satisfaction in our institution	0	3(4.5%)	13(19.4%)	28(41.8%)	23(34.3%)	4.06	.851
There are adequate facilities and reading areas in IR	4(6.0%)	31(46.3%)	20(29.9%)	8(11.9%)	4(6.0%)	2.66	.978
The institutional repository staff are polite, courteous and respectful	1(1.5%)	4(6.0%)	9(13.4%)	25(37.3%)	28(41.8%)	4.12	.962
The institutional repository services are accessible at all times	1(1.5%)	6(9.0%)	36(53.7%)	15(22.4%)	9(13.4%)	3.37	.885

Institutional repository services are essential in	0	3(4.5%)	10(14.9%)	30(44.8%)	24(35.8%)	4.12	.826
There is no sluggishness in IR service delivery in our institution	0	6(9.0%)	26(38.8%)	25(37.3%)	10(14.9%)	3.58	.855

Table 2 demonstrates that post-graduate students consider reliability (mean = 4.13), etiquette, politeness and courtesy (mean = 4.12), assurance of services (mean = 4.06), empathy (mean = 4.03), responsiveness (mean = 4.02) and tangibility aspects as most essential in influencing post-graduate institutional repository services at university libraries. However, 31(46.3%) of the students felt that the digital institutional repository section did not have adequate infrastructure facilities and furniture such as reading areas. When post-graduate students were asked in an open-ended question to suggest what should be done to improve digital institutional repository service provision in the university libraries, they provided ten suggestions. The study developed themes out of the ten suggestions which cut across the responses. These were: sensitization and marketing of the services offered, embracing student/staff capacity building practices, and purchasing infrastructure and new technologies.

These results agreed with the librarians responses during the interview. For example, Head of section librarian 01 emphasized, *"The university librarian should push for head of section trainings, workshops, benchmarking activities and attendance of conferences".* These results have implications on staff professional development, retooling and skills sharpening in order to remain relevant in the provisioning of services. Mbughuni (2023) in South Africa also reported that awareness and possession of knowledge on how to access published materials in institutional repositories through seminars, orientations, workshops and one-on-one basis improved usability and accessibility to the deposited items.

Another area of concern presented by the results was the need to improve the flexibility of institutional repository services by increasing the operation hours. Notably, there was a concern about the accessibility of the digital institutional repository sections for patrons who wish to utilize the section physically. In that connection, university libraries need to readdress their opening and closing hours of digital institutional repository section, as well as employ more staff in order to ensure accessibility of repository sections in the university libraries.

Correlation between empathy and digital institutional repository service provision

Table 3

Correlation results

		DIR service provision
Empathy	Pearson Correlation	.710**
	Sig. (2-tailed)	.000
	N	67

** Correlation is significant at the 0.01 level (2-tailed).

Table 3 displays that empathy had a positive and significant relationship with digital institutional repository service provision (r = .710, p = .000<.05). This implies that changes in empathy leads to a change in service provision; hence, the need to strengthen empathy in digital institutional repositories. The findings agree with the observations of Psoma (2020) who found that empathy, such as ensuring e-resources are readily accessible remotely, the websites are quickly navigable, and that documents are downloadable improves service provision in institutional repositories. The results also align with the SERVQUAL model that stresses empathy as a critical service quality dimension.

4.0 Conclusion

The study concludes that empathy is satisfactorily supported by the staff listening keenly to student's needs, offering timely solutions where needed, work ethics, code of conduct, and also short procedures for retrieving information materials in the repository. However, significant deficits of institutional repositories' software among the university libraries evidenced by inability of the DSpace software to send notifications to users when new documents were published, and the failure by repository website to remind a student on previous searches was reported. This diminishes user satisfaction; hence, need for proactive solutions to counter the technological challenges.

5.0 Recommendations

The study highlights a critical need for substantial investment in digital institutional repository technological infrastructure, emphasizing modernization of software. The noted gaps call for collaboration between ICT managers and librarians in the universities to add retrieval and notification features in the DSpace software. To achieve this, the university management should provide financial intervention to upgrade repository technology to keep in step with changes in user information needs.

References

Adeyeye, S. V., & Oladokun, T. A. (2023). Application of emerging technologies for research support in Nigerian academic libraries: Trends, problems and prospects. *IASSIST Quarterly*, *47*(3-4). https://iassistquarterly.com/index.php/iassist/article/view/1069

Adeyeye, S. V. & Babalola, O. O. (2022). Performance and effort expectancies in the use of institutional repositories among postgraduate students in Southwest Nigeria. *Annals of Library*

and Information Studies 69(2), 143-148. https://www.researchgate.net/publication/366512790

Anenene, E. E., Alegbeleye, G. B., & Oyewole, O. (2017). Factors contributing to the adoption of institutional repositories in Universities in South-West Nigeria: Perspectives of Library Staff. *Library Philosophy & Practice*, 1-17. http://digitalcommons.unl.edu/libphilprac/1508

Asadi, S., Abdullah, R., Yah, Y., & Nazir, S. (2019). Understanding Institutional Repository in Higher Learning Institutions: A systematic literature review and directions for future research. *IEEE Access*, *7*, 35242-35263. https://ieeexplore.ieee.org/abstract/document/8635464/

Bashir, S., Gul, S., Bashir, S., Nisa, N. T., & Ganaie, S. A. (2022). Evolution of institutional repositories: Managing institutional research output to remove the gap of academic elitism. *Journal of Librarianship and Information Science*, *54*(3), 518-531. https://journals.sagepub.com/doi/abs/10.1177/09610006211009592

Bryman, A., & Bell, E. (2011). *Business research methods.* (3rd.ed.). Oxford University Press.

Bushman, B., Lund, B., Wang, T., Garrett, N., & Manyonga, D. (2021). Obstacles and challenges to library service in Uganda. *International Information & Library Review*, *53*(1), 1-14. https://www.tandfonline.com/doi/full/10.1080/10572317.2020.1732850

Callicott, B. B., Scherer, D., & Wesolek, A. (2015). *Making institutional repositories work*. Purdue University Press.

https://library.oapen.org/handle/20.500.12657/31579

Cox, J. (2016). Communicating new library roles to enable digital scholarship: A review article. *New Review of Academic Librarianship*, *22*(2-3), 132-147. https://www.tandfonline.com/doi/full/10.1080/13614533.2016.1181665

Ejikeme, A. N., & Ezema, I. J. (2019). The potentials of open access initiative and the development of Institutional Repositories in Nigeria: Implications for scholarly communication. *Publishing Research Quarterly*, *35*(1), 6-21. https://link.springer.com/article/10.1007/s12109-018-09626-4

Ezema, I. J., & Onyancha, O. B. (2017). Open Access publishing in Africa: advancing research outputs to global visibility. *African Journal of Library, Archives & Information Science*, *27*(2), 97-115. https://www.researchgate.net/profile/Ifeanyi-Ezema/publication/322340214

González-Pérez, L. I., Ramírez-Montoya, M. S., & García-Peñalvo, F. J. (2021). Improving institutional repositories through user-centered design: Indicators from a focus group. *Future Internet*, *13*(11), 282-301. https://www.mdpi.com/1999-5903/13/11/282

Goshie, R. W., Abubakar, F., & Jibril, H. (2018). Efficient Customer Service. *Benue Journal of Library Management and Information Science, volume 8*(2), 1-10. http://repository.futminna.edu.ng:8080/jspui/handle/123456789/12053

Luther, J. (2018). The evolving institutional repository landscape. ACRL/Choice, publisher. https://digitalcommons.unl.edu/scholcom/70/

Fernández-Ramos, A., & Barrionuevo, L. (2021). Value-added services in institutional repositories in Spanish public universities. *University of Sweden Quarterly, 26*(1), 1-12. http://informationr.net/ir/26-1/paper895.html

Fuller, M., de Jong, M., Kamans, E., Wolfensberger, M., & van Vuuren, M. (2023). Empathy competencies and behaviors in professional communication interactions: self versus client assessments. *Business and Professional Communication Quarterly*, *86*(2), 167-186. https://journals.sagepub.com/doi/full/10.1177/23294906221137569

Kakai, M. (2018). Open access institutional repositories in selected East African Universities: Achievements, challenges and the way forward. *SCECSAL Publications*, *1*(12), 205-226. https://www.scecsal.org/publications/papers2018/012%20_kakai_2018.pdf

Lagzian, F., Abrizah, A., & Wee, M. C. (2015). Critical success factors for institutional repositories implementation. *The Electronic Library*, *33*(2), 96-209. https://www.emerald.com/insight/content/doi/10.1108/EL-04-2013-0058/full/htm

Lee, D. H., & Hong, H. J. (2017). A Study on the Evaluating Service Quality in Special Subject Repository: Focused on the 5· 18 Archives. *International Journal of Knowledge Content Development & Technology*, *7*(4), 85-106. https://koreascience.kr/article/JAKO201708733754559.page

Mbughuni, A. (2023). Using of open access institutional repository policy for collecting content in OAIRs. *Library Philosophy and Practice*, 0(1), 1-28.

https://www.proquest.com/openview/cf7b59bcbd143349a9b60c4c6defe5eb/1?pq-origsite=gscholar&cbl=54903

Mugenda, O., & Mugenda, A. (2003). *Research Methods Quantitative and Qualitative Approaches.* Acts Press.

Mutsvunguma, G. (2019). *Institutional repositories as platforms for open access in South African universities: the case of University of KwaZulu-Natal* [Doctoral dissertation, University of KwaZulu-Natal]. South Africa. https://ukzn-dspace.ukzn.ac.za/handle/10413/16499

Mwiti, F. M. (2017). *Factors influencing use of open access repository: A case of Kenya Methodist University* [Masters' Dissertation, Kenya Methodist University]. Kenya. http://repository.kemu.ac.ke/handle/123456789/1070

Nunda, I., & Elia, E. (2019). Institutional repositories adoption and use in selected Tanzanian higher learning institutions. *International Journal of Education and Development using ICT*, *15*(1), 150-164. https://www.learntechlib.org/p/209740Okoroma, F. N. (2018). Awareness, knowledge and attitude of lecturers towards institutional repositories in university libraries in Nigeria. *Digital library perspectives*, *34*(4), 288-307. https://doi.org/10.1108/DLP-04-2018-0011

Parasuraman, A., Zeithaml, V. A., & Berry, L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality, *64*(1), 12-40. https://www.researchgate.net/profile/Valarie-Zeithaml-2/publication/225083802

Rafiq, M. (2022). Institutional repositories (IRs) in universities of Pakistan: Issues and emergent framework for remedies. *The Journal of Academic Librarianship*, *48*(1), 102480. https://www.sciencedirect.com/science/article/abs/pii/S0099133321001713

Ratanya, F. C., & Muthee, D. (2018). An exploratory study on access and utilization of the institutional repositories among academic staff at Egerton University, Kenya. *East African Journal of Information Science*. https://eajis.pubpub.org/pub/an-exploratory-study-on-access-and-utilization-of-the-institutional-repositories-among-academic-staff-at-egerton-university-kenya/release/1

Saini, O. P. (2018). The emergence of institutional repositories: a conceptual understanding of key issues through review of literature. *Library Philosophy and Practice*, 1 (e-journal) 1774, 1-19. https://core.ac.uk/download/pdf/188128372.pdf

Saulus, N. R., Mutula, S., & Dlamin, N. (2017). *Technology acceptance factors in the use of institutional repositories: the case of the University of Swaziland and (UNISWA)'s Faculty of Agriculture and Consumer Sciences.*

https://www.scecsal.org/publications/papers2018/038_saulus_2018.pdf

Semo, BW. & Frissa, SM. 2020. The mental health impact of the COVID-19 pandemic: Implications for sub-Saharan Africa. *Psychology Research and Behavior Management 13*, 713-720. https://doi.org/10.2147/PRBM.S264286

Tapfuma, M. M., & Hoskins, R. G. (2019). Open science disrupting the status quo in academic libraries: A perspective of Zimbabwe. *The Journal of Academic Librarianship*, *45*(4), 406-412. https://www.sciencedirect.com/science/article/pii/S009913333193003X

Wangui, W. M. (2018). *Perception and Attitude of Postgraduate Students on Institutional Repositories: Case of St. Paul's University in Lmiuru, Kenya* [Master's thesis, Kenyatta University]. Kenya.https://irlibrary.ku.ac.ke/bitstream/handle/123456789/17746/

Zibani, P., Rajkoomar, M., & Naicker, N. (2022). A systematic review of faculty research repositories at higher education institutions. *Digital Library Perspectives*, *38*(2), 237-248. https://www.emerald.com/insight/content/doi/10.1108/dlp-04-2021-0035/full/htm.