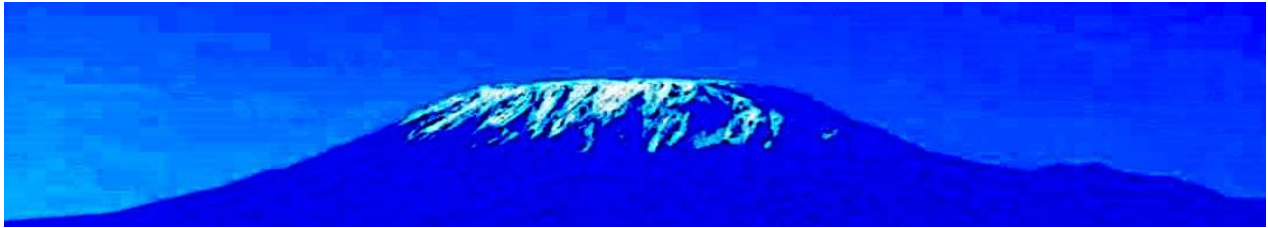
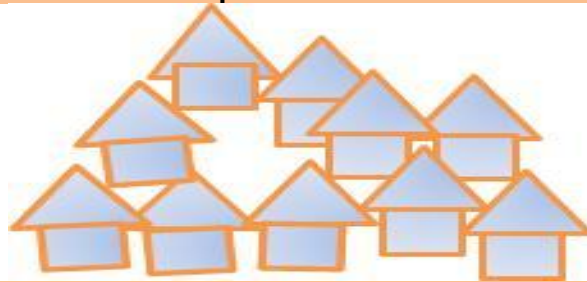


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Library Users' Practices and Engagement in Digital Library Resources (DLRs) in Selected Universities in Morogoro, Tanzania

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Abstract

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In higher education, digital library resources (DLRs) are increasingly recognized as vital tools for academic success. Their effective utilization, however, depends not only on availability but also on how users practice and engage with these resources. This study examined library users' practices and engagement with DLRs in selected universities in Morogoro, Tanzania. A cross sectional survey design was employed, involving 150 respondents through questionnaires, 89 participants in 10 Focus Group Discussions (FGDs), and 16 key informants through interviews. Quantitative data were analyzed using IBM SPSS version 20, while qualitative data were thematically organized in line with the study objectives. Findings reveal that the majority of users (68%) reported moderate engagement with DLRs, while 18% reported high engagement and 14% reported low engagement. In terms of device ownership, most respondents owned between one and three devices, with 62% classified under moderate ownership, 24% under low ownership, and 14% under high ownership. However, chi square tests showed no significant association between device ownership and either self-rated digital literacy or knowledge of DLRs, indicating that ownership alone does not determine competence. Knowledge levels of DLRs were generally limited: 40% reported inadequate knowledge, 26% moderate knowledge, and only 34% adequate knowledge. Similarly, engagement practices did not significantly correspond to higher knowledge levels, suggesting that usage patterns alone do not guarantee deeper understanding. Employment status, however, was significantly associated with engagement, with faculty members more likely to report high practices compared to students and administrative staff. The study concludes that while moderate engagement and ownership are dominant trends, insufficient knowledge and awareness constrain effective adoption of DLRs. It recommends intensified information dissemination, sensitization programs, and targeted training initiatives to enhance users' understanding and awareness, thereby fostering greater utilization of DLRs and improving academic outcomes.

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Background Information and Problem Statement

The digital revolution has transformed academic libraries worldwide, shifting from traditional print collections to digital repositories, e-journals, and online catalogs (Thanuskodi, 2012; Islam & Mezbah-ul-Islam, 2010; Alemna & Sam, 2006). Notably, this transformation has enabled libraries to provide faster, broader, and more equitable access to scholarly information, supporting teaching, learning, and research in ways that physical collections alone could not achieve. The resources adopted in this transform have been significantly observed to enhance accessibility, efficiency, and support for teaching, learning, and research. In Tanzania, higher learning institutions (HLIs) are progressively adopting digital library services to address challenges such as limited physical space, resource scarcity, and staff shortages (Mathew & Matemba, 2023; Msonde, 2024; Mashui, 2023).

In HLIs, DLRs are increasingly recognized as essential tools for academic success. These resources allow students and faculty to access global knowledge networks, enhance research productivity, and overcome limitations of physical holdings (Thanuskodi, 2012). DLRs provide timely access to scholarly information, enabling students and faculty to engage with global knowledge networks. They are particularly vital in resource-constrained settings, where physical collections may be inadequate, this doesn't however mean that the value of DLRs is simply confined to resource-constrained settings. It should be noted that, effective utilization of DLRs depends not only on their availability but also on user practices and engagement patterns, which are shaped by socio-demographic factors, ICT literacy, and institutional support, among others (Islam & Mezbah-ul-Islam, 2010; Mashui, 2023).

It should be further noted that DLRs are increasingly central to higher education in Tanzania, supporting teaching, learning, and research by providing access to e-journals, repositories, and online catalogs (Msonde, 2024; Mathew & Matemba, 2023; Mashui, 2023). Definitely, DLRs are not only available but strategically prioritized in Tanzanian universities through initiatives like COTUL (Consortium of Tanzania University and Research Libraries), which coordinates access to e-resources across institutions, but user practices and engagement remain uneven due to socio-demographic, infrastructural, and attitudinal factors. However, their effectiveness depends on how library users engage and practice with these resources. Understanding these dynamics is critical for improving access, equity, and effective utilization in universities, **since** effective utilization of DLRs reflects on user practices and engagement patterns, which significantly depends on socio-demographic factors, among others.

Comparative studies in Tanzanian universities show that younger students with ICT exposure demonstrate higher engagement, while older staff or rural users lag behind (Kisanjara, 2023; Ndanu, et al., 2017; Lashayo, & Johar, 2016). Such disparities underscore the importance of examining user practices and engagement to inform strategies that promote equitable access and effective utilization of DLRs (Mashui, 2023; Mathew & Matemba, 2023). Although DLRs have become essential in supporting teaching, learning, and research in higher education, their effective utilization in Tanzanian universities remains inconsistent. Studies show that while institutions have invested in digital repositories, e-journals, and online catalogs, actual user engagement is hindered by ICT literacy gaps, infrastructural limitations, and varying attitudes toward digital resources (Mathew & Matemba, 2023; Mashui, 2023).

Evidence suggests that knowledge alone does not guarantee adoption; users' perceptions of convenience, relevance, and usability strongly influence whether awareness translates into practice (Anasel, & Swai, 2023; Kayanda, et al., 2020; Kazoka, & Mwantimwa, 2019). In Tanzanian universities, younger students with prior ICT exposure often demonstrate stronger

engagement, while older staff and users from rural backgrounds lag behind (Mashui, 2023). This disparity raises concerns about equitable access to information and the effectiveness of digital library investments.

Despite the growing importance of DLRs, (Mkama & Mgone, 2023; Ministry of Education, Science and Technology, 2025), there is limited empirical research examining how library users' practices and engagement vary across socio-demographic groups in Tanzanian universities. Apparently, without such evidence, institutions risk underutilization of resources, widening digital divides, and missed opportunities to strengthen academic performance and research output. Although DLRs have expanded access to scholarly information, several challenges continue to hinder their effective utilization in universities. One major issue is ICT literacy gaps, where many users, particularly older staff or those from rural backgrounds lack adequate digital skills to navigate repositories, e-journals, and online catalogs. This digital divide limits their ability to fully exploit available resources and contributes to unequal access to information (Thanuskodi, 2012; Baro & Fynman, 2009). Another challenge is infrastructure limitations, including unreliable internet connectivity, insufficient access to computers, and inadequate institutional support. These barriers are especially highly pronounced in African universities, where infrastructural constraints often undermine the potential of digital initiatives (Alemna & Sam, 2006; Mutula & Brakel, 2006). In addition, attitudinal barriers play a critical role in shaping user engagement. Positive perceptions of convenience, affordability, and efficiency encourage adoption, while negative attitudes regarding usability, relevance, or trust in digital systems discourage consistent use (Islam & Mezbah-ul-Islam, 2010; Dadzie, 2007).

These challenges demonstrate that mere availability of DLRs does not guarantee effective utilization. Addressing them requires not only investment in infrastructure and training but also a deeper understanding of library users' practices and engagement patterns. By examining how different socio-demographic groups interact with DLRs, their frequency of use, search strategies, and perceptions, universities can identify disparities and design interventions that foster equitable access, positive attitudes, and effective utilization. Thus, investigating library users' practices and engagement in selected universities is essential for bridging gaps and maximizing the academic benefits of digital resources. It is against this background that this article assesses library users' practices and engagement in DLRs in selected universities in Morogoro, Tanzania. Therefore, this study seeks to investigate library users' practices and engagement with DLRs in selected universities, applying the Knowledge, Attitude, and Practice (KAP) theory, Technology Acceptance Model (TAM) and Digital Divide Theory to understand the progression from awareness to behavior. The findings will inform strategies to enhance equitable access, foster positive attitudes, and promote effective utilization of digital resources in higher education.

Theoretical Framework

This study was guided by Knowledge, Attitude, and Practice (KAP) theory, Technology Acceptance Model (TAM), Diffusion of Innovations Theory (Rogers, 2003); Information Behavior Theories (Wilson, 1999) and Digital Divide Theory. Each theory provides a lens for understanding how users adopt, perceive, and engage with digital resources. By integrating these frameworks, this study has comprehensively afforded to explain why users engage differently with DLRs and guide interventions to improve equitable access and effective utilization in Tanzanian universities.

The Knowledge, Attitude, and Practice (KAP) theory is a useful framework for explaining behavioral change as a progression from awareness (knowledge), to perceptions (attitudes), and finally to observable behaviors (practices). This model is particularly relevant in analyzing

how students and faculty transition from simply knowing about digital learning resources (DLRs) to forming opinions about their usefulness, and ultimately to consistent usage patterns. KAP has been widely applied in ICT and library adoption studies, demonstrating its effectiveness in understanding user engagement with new technologies (Alsale et al., 2023; Swai, Nyamete, & Silayo, 2025).

Similarly, the Technology Acceptance Model (TAM) provides valuable insights into technology adoption by focusing on how perceived usefulness and perceived ease of use influence user acceptance. This model explains why some individuals readily embrace DLRs while others resist, even when resources are readily available. TAM has been validated in multiple studies on digital library adoption in higher education, making it a robust theoretical lens for examining user behavior in academic contexts (Davis, 1989; Venkatesh & Davis, 2000).

The Diffusion of Innovations (DOI) theory (Rogers, 2003) further enriches this discussion by examining how innovations spread across social systems. It highlights categories of adopters such as innovators, early adopters, the majority, and laggards, which helps explain disparities in DLR engagement between younger ICT-exposed students and older staff or rural users. This theory has been extensively applied in ICT adoption research in African universities, providing a strong foundation for understanding the social dynamics of technology uptake (Mutula & Brakel, 2006).

Finally, Information Behavior theories, particularly Wilson's model (1999), focus on how individuals seek, access, and use information within specific contexts. This perspective is crucial for understanding search strategies, frequency of use, and barriers encountered in DLR engagement. Wilson's model has been widely used in library and information science research to study user practices, making it a relevant framework for analyzing how academic communities interact with digital resources.

METHODOLOGY

Choice of Study Area and Its Justification

The study was conducted in Morogoro, Tanzania, focusing on universities that manage modern DLRs. The institutions selected included both public universities which were Sokoine University of Agriculture (SUA), Open University of Tanzania (OUT), and Mzumbe University (MU) and private universities namely Jordan University and the Muslim University of Morogoro (MUM). These universities were chosen because they represent the key institutions in the region that actively manage and utilize DLRs, making them suitable for assessing knowledge and awareness among library users.

Research Design

The study adopted a cross-sectional research design, enabling data collection from diverse participants at a single point in time. A mixed-methods approach was used, combining quantitative and qualitative techniques.

Quantitative methods involved Surveys and structured questionnaires were administered to gather information on knowledge, attitudes, and practices regarding DLRs. These included both open- and close-ended questions to capture measurable data and deeper perspectives. Qualitative methods involved Focus Group Discussions (FGDs), whereby Ten FGDs were conducted, two in each participating university. This number was sufficient to achieve thematic saturation, as suggested by Coenen et al. (2012). Key Informant Interviews (KIIs) were involved in the study, whereby Sixteen KIIs were held with individuals possessing specialized knowledge,

including community leaders and professionals. These interviews provided expert insights into challenges and opportunities related to digital library resource use. The number of individuals involved in the KIIs was considered adequate, as it aligns with recommendations by Namey (2017) and the UCLA Center for Health Policy Research.

Sampling procedures

The study targeted students and staff from five universities in Morogoro, Tanzania: Sokoine University of Agriculture (SUA), Mzumbe University (MU), Open University of Tanzania (OUT), Muslim University of Morogoro (MUM), and Jordan University College (JOCU). A multistage sampling technique was used whereby five (5) universities were selected purposively. Participants were grouped by characteristics such as university, faculty/department, and socio-demographics. Individuals were then randomly selected from each group. The sampling frame was prepared with assistance from university library management. A total of 150 students participated in this study, with 30 students from each university. This sample size was considered adequate, as scholars such as Bailey (1994) and Field (2009) note that a minimum of 30 respondents per site is sufficient for statistical analysis regardless of population size.

Data Collection and Data Analysis

Data were collected using a structured questionnaire guide administered through the Kobo Collect electronic platform. The study employed a Knowledge, Attitude, and Practices (KAP) survey, which combined quantitative and qualitative data.

Questionnaire focused on profile of participants including socio-demographic and cultural characteristics. Knowledge focused on understanding of DLRs, their features, and access methods. Knowledge on DLRs was analysed by evaluating the level of awareness and understanding among university students and faculty regarding DLRs. It focused on identifying gaps in knowledge related to accessing, utilizing, and navigating these resources, while also exploring participants' familiarity with specific digital library platforms, databases, and search techniques. This comprehensive assessment provided insights into how well users understood the available digital tools and highlighted areas where further training or awareness initiatives might be necessary.

Data were analysed using IBM-SPSS v20. Statistical tools included frequencies, percentages, means, chi-square tests, correlation coefficients, Likert scales, and index scores. Significance was set at $p < 0.05$. Knowledge was analyzed using index scores.

Analytical Approaches

In examining patterns of digital resource practices/engagement, the study employed a combination of descriptive and inferential techniques. Descriptive statistics included were percentages, means, and frequency tables were first used to summarize overall patterns and provide a clear picture of the distribution of responses. To capture more complex dimensions of engagement, indices were constructed as composite measures, including the Device Usage Index and Frequency Index, which allowed for standardized comparisons across respondents.

$$UPI_r = \sum_{i=1}^n D_{ir} + \sum_{j=1}^m T_{jr} + F_r + \sum_{k=1}^p P_{kr} + \sum_{l=1}^q M_{lr}$$

Further analysis used cross-tabulation to compare practices across socio-demographic groups such as age, gender, and education. Cluster analysis was also applied to identify distinct user

groups—“heavy,” “moderate,” and “light” users highlighting variations in engagement intensity. Together, these methods provided a comprehensive framework, capturing broad patterns, relational insights, and meaningful subgroups. The UPI computation followed this formula:

$$UPI_r = \sum_{i=1}^n D_{ir} + \sum_{j=1}^m T_{jr} + F_r + \sum_{k=1}^p P_{kr} + \sum_{l=1}^q M_{lr}$$

Where:

- (UPI_r) = Users’ Practices Index score for respondent (r).
- (D_{ir}) = device usage indicator (1 if device (i) is used, 0 if not).
- (T_{jr}) = tool/platform usage indicator (1 if tool (j) is used, 0 if not).
- (F_r) = frequency of use score (ordinal scale, e.g., 1 = rarely, 4 = daily).
- (P_{kr}) = purpose of use indicator (1 if purpose (k) applies, 0 if not).
- (M_{lr}) = material accessed indicator (1 if material (l) is accessed, 0 if not).
- (n) = total number of devices considered.
- (m) = total number of tools/platforms considered.
- (p) = total number of purposes of use considered.
- (q) = total number of material types considered.
-

The Users’ Practices Index (UPI) was computed as a composite measure incorporating device usage, platform usage, frequency of access, purpose of use, and types of materials accessed. Each component was coded as binary or ordinal values, and the total score was obtained by summing across all variables. This index provides a quantitative measure of users’ engagement with digital resources, allowing classification into light users (low), moderate users, and heavy users (high) practice categories based on either percentile distribution or statistical cut-offs.

In classifying levels of practice, two approaches were employed. The first was a percentile-based cut-off, which categorized respondents into three groups: low practice (scores ≤ 18, representing the bottom 33%), moderate practice (score of 19, representing the middle 33%), and high practice (scores ≥ 20, representing the top 33%). The second approach relied on statistical cut-offs using the mean and standard deviation, where low practice was defined as scores at or below , approximately 15–16; moderate practice included scores around the mean within one standard deviation, ranging from 17–22; and high practice was defined as scores at or above, approximately 23–26. These dual methods provided both a data-driven and statistically grounded benchmark for categorizing practice levels, ensuring that the classification was robust and reflective of the distribution of responses.

The Users’ Practices Index (UPI) scores ranged from 15 to 26, with a mean of 19.24 and a standard deviation of 2.95. Two classification approaches were applied to benchmark respondents’ practices. Using percentile-based cutoffs, respondents scoring 18 or below were categorized as low practice, those scoring 19 as moderate practice, and those scoring 20 or above as high practice. Alternatively, applying mean ± standard deviation thresholds, scores between 15 and 16 were classified as low practice, scores between 17 and 22 as moderate practice, and scores between 23 and 26 as high practice. Both methods highlight that most respondents fall within the moderate practice category, with fewer individuals at the extremes of low and high practice.

For the purposes of this study, the percentile-based classification was adopted as the primary method for categorizing Users’ Practices Index (UPI) scores. This approach was selected because it provides a clear, data-driven benchmark that reflects the actual distribution of

respondents within the sample, ensuring balanced group sizes across low, moderate, and high practice categories. While the mean $\pm$ standard deviation method offers statistical robustness, the percentile approach was deemed more appropriate for highlighting proportional differences in digital practices among respondents.

To analyze DLR user practices, digital device ownership emerged as a critical factor. Ownership of smartphones, laptops, tablets, and desktops directly determines access and use of DLRs. Without adequate devices, even advanced platforms remain underutilized. Thus, ownership was treated as foundational, serving as a baseline indicator of digital access. Examining ownership patterns highlighted disparities across socio-demographic groups and showed how levels influence usage. Respondents with multiple devices reported more diverse and frequent engagement, while those with limited ownership faced barriers. Device ownership was therefore not only descriptive but also a determinant of digital inclusion, shaping opportunities for learning, research, and knowledge sharing. Table 3 presents the Digital Device Ownership Index (DDOI), which codes ownership of devices (smartphone, laptop, tablet, desktop, iPad, smart TV) into a composite score grouped as low (0–2), moderate (3–4), and high (5–7).

Results

Socio –Demographic and Economic Characteristics of the Respondents

The study sample was largely composed of undergraduate students (88.7%), with smaller groups of diploma, master's, and PhD candidates. Most respondents lived in urban areas (82.7%), while fewer were from peri-urban (10.7%) and rural (6.7%) settings. The sample was male-dominated (61.3% male, 38.7% female). Age distribution showed the largest group between 30–39 years (29.2%), with the smallest above 70 years (3.8%). The mean age was 43.7 years, ranging from 21 to 72. These demographics reflect the composition of Tanzanian universities and broader sampling dynamics. Table 1 presents the details.

Table 1: Socio-Demographic and Economic Characteristics of the Respondents (n=150)

Variables		Frequency	Percent
Sex of respondents	Male	92	61.3
	Female	58	38.7
	Total	150	100.0
	21-30	20	13.1
Age	30-39	44	29.2
	40-49	39	26.3
	50-59	26	17.1
	60-69	15	10.5
	70 &Above	6	3.8
	Total	150	100.0
	Marital Status		
Marital Status	Married	73	48.7
	Single	60	40.0
	Widow	5	3.3
	Divorced	6	4.0
	Separated	6	4.0
	Total	150	100.0
Level of education	Undergraduate	133	88.7
	Diploma	6	4.0
	Master	5	3.3

Place of residence	Phd	6	4.0
	Total	150	100.0
	Urban	124	82.7
	Peri-urban	16	10.7
	Rural	10	6.7
	Total	150	100.0

Digital Library Users' Practices/Engagement in DLRs

The distribution of users' practices and engagement with DLRs in Table 2 shows that the majority fall into the moderate practices category, with 102 respondents representing 68 percent of the sample. This indicates that most users engage with DLRs at a moderate level, neither minimal nor highly advanced. A smaller proportion of respondents, 27 individuals (18 percent), reported high levels of practices and engagement, suggesting that less than one-fifth of users are actively and consistently utilizing DLRs to their full potential. Meanwhile, 21 respondents (14 percent) reported low levels of practices, reflecting limited or minimal engagement with digital library systems. Altogether, the cumulative percentages show a steady progression, with 82 percent of users at least moderately engaged, and 100 percent accounted for across all categories.

Table 2 ***Level of users' practices/engagement in DLRs (n=150)***

	Frequency	Percent
Low practices /engagement in DLRs	21	14.0
Moderate practices /engagement in DLRs	102	68.0
High practices /engagement in DLRs	27	18.0
Total	150	100.0

Digital Library Users' Practices in Relation to DLRs (ownership of devices)

Table 3 presents practices of DLRs users in relation to digital library services necessary tools. These results present the aspect of devices ownership by the respondents. The results show that, 24% reported owning one device, another 24% owned two devices, and the largest group (38%) owned three devices. A smaller proportion, 12%, indicated ownership of four devices, while only 2% reported having five devices. Notably, no respondents reported owning six or seven devices.

Table 3: Number of devices owned by a respondent (n=150)

Number of devices owned		Frequency	Percent
Number of devices owned	1.00	36	24.0
	2.00	36	24.0
	3.00	57	38.0
	4.00	18	12.0
	5.00	3	2.0
	6.00	0.0	0.0
	7.00	0.0	0.0
	Total	150	100.0

Categories of Digital Devices Ownership by the Respondents

Table 4 presents the distribution of respondents according to the Digital Device Ownership Index (DDOI) categories of ownership. The findings reveal that 36 respondents (24.0%) fell into the *low ownership* category, indicating that they possessed between zero and two devices. The

majority of respondents, 93 individuals (62.0%), were classified under the *moderate ownership category*, reflecting ownership of three to four devices. Meanwhile, 21 respondents (14.0%) belonged to the *high ownership category*, signifying ownership of five to seven devices.

Table 4 Digital Devices Ownership Index Categories (n=150)

Category of ownership	Frequency	Percent
Low ownership category	36	24.0
Moderate ownership category	93	62.0
High ownership category	21	14.0
Total	150	100.0

Categories of Digital Device Ownership across Self-Rated Digital Literacy Levels

Table 5 presents the results on Digital Device Ownership Index (DDOI) categories of ownership and respondents' self-rated digital literacy levels. From the total sample of 150 respondents, the results on Digital Device Ownership Index (DDOI) categories and self-rated digital literacy levels can be expressed in percentages. In the **low ownership category** (36 respondents), 15 rated their literacy as very high (10%), 12 as high (8%), and 9 as moderate (6%). In the **moderate ownership category** (93 respondents), 39 rated their literacy as very high (26%), 26 as high (17.3%), and 28 as moderate (18.7%). Finally, in the **high ownership category** (21 respondents), 9 rated their literacy as very high (6%), 6 as high (4%), and 6 as moderate (4%). Altogether, this shows that across the entire sample, 42 respondents (28%) rated their literacy as very high, 44 (29.3%) as high, and 43 (28.7%) as moderate, with the remainder distributed across ownership categories. This highlights that while moderate ownership is the most common, perceptions of digital literacy vary, with nearly one-third of respondents in each literacy level.

Table 5: Categories of Digital Device of Ownership * Self-Rated Digital Literacy Level Crosstabulation (n=150)

Variables		Self-rated digital literacy level			Total
		Very high	High	Moderate	
Digital Object Index category of ownership	Low ownership category	15	12	9	36
	Moderate ownership category	39	26	28	93
	High ownership category	9	6	6	21
Total		63	44	43	150

A Chi-Square test of independence was conducted to examine the relationship between digital device ownership category and self-rated digital literacy level. The results showed no statistically significant association between the two variables, $\chi^2(4, N=150)=0.50$, $p=.97$.

This indicates that respondents' self-rated digital literacy levels are independent of their digital device ownership category. In other words, owning more or fewer digital devices does not appear to influence how users perceive their own digital literacy. The very high p-value ($p = .97$) suggests that any differences observed in the crosstabulation are due to chance rather than a meaningful relationship. This finding implies that digital literacy is not determined by the quantity of devices owned, but may instead depend on other factors such as training, exposure, or usage patterns.

Digital Device Ownership and Level of DLRs Knowledge

The results in Table 6 shows Digital Object Index (DOI) categories of ownership and self-rated knowledge of Digital Learning Resources (DLRs) expressed in percentages. In the low ownership category (36 respondents), 12 reported inadequate knowledge (8%), 8 reported moderate knowledge (5.3%), and 16 reported adequate knowledge (10.7%). In the moderate ownership category (93 respondents), 37 reported inadequate knowledge (24.7%), 28 reported moderate knowledge (18.7%), and 28 reported adequate knowledge (18.7%). Finally, in the high ownership category (21 respondents), 11 reported inadequate knowledge (7.3%), 3 reported moderate knowledge (2%), and 7 reported adequate knowledge (4.7%).

Overall, across the entire sample, 60 respondents (40%) reported inadequate knowledge, 39 respondents (26%) reported moderate knowledge, and 51 respondents (34%) reported adequate knowledge. The distribution shows that while moderate ownership is the most common, a substantial proportion of respondents still perceive their knowledge of DLRs as inadequate, highlighting the need for targeted capacity-building initiatives.

Table 6: Digital Device Ownership Index category of ownership * Level of DLRs Knowledge Crosstabulation (n=150)

Variables		Level of DLRs Knowledge			Total
		IK	MK	AK	
Digital Object Index category of ownership	Low ownership category	12	8	16	36
	Moderate ownership category	37	28	28	93
	High ownership category	11	3	7	21
Total		60	39	51	150

A Chi-Square test of independence was conducted to examine the relationship between digital device ownership category and knowledge levels of DLRs. The results indicated no statistically significant association, $\chi^2(4, N=150)=4.69$, $p=.32$. This suggests that knowledge levels are independent of device ownership, and that owning more devices does not necessarily translate into higher knowledge of DLRs. This means that digital device ownership category is not associated with knowledge levels of DLRs in this sample. Respondents with low, moderate, or high ownership show similar distributions of inadequate, moderate, and adequate knowledge.

Digital library Users' Practices/Engagement and DLRS Knowledge

Table 7 presents the crosstabulation between the Digital Device Ownership Index (DDOI) categories of ownership and respondents' level of knowledge of DLRs. From the total sample of 150 respondents, the crosstabulation between the Digital Device Ownership Index (DDOI) categories and respondents' knowledge of Digital Learning Resources (DLRs) can be expressed in percentages. In the low ownership category (36 respondents), 12 reported inadequate knowledge (8%), 8 reported moderate knowledge (5.3%), and 16 reported adequate knowledge (10.7%). In the moderate ownership category (93 respondents), 37 reported inadequate knowledge (24.7%), 28 reported moderate knowledge (18.7%), and 28 reported adequate knowledge (18.7%). In the high ownership category (21 respondents), 11 reported inadequate knowledge (7.3%), 3 reported moderate knowledge (2%), and 7 reported adequate knowledge (4.7%).

Overall, across the entire sample, 60 respondents (40%) reported inadequate knowledge, 39 respondents (26%) reported moderate knowledge, and 51 respondents (34%) reported adequate knowledge. The distribution shows that while moderate ownership is the most common, a substantial proportion of respondents still perceive their knowledge of DLRs as inadequate, underscoring the need for targeted training and awareness programs to strengthen digital literacy.

Table 7: Level Of Users' Practices/Engagement * Level of DLRS Knowledge Crosstabulation

		Level of DLRS Knowledge			Total
		IK	MK	AK	
Level of users' practices/engagement	Low practices	11	3	7	21
	Moderate practices	36	31	35	102
	High practices	13	5	9	27
Total		60	39	51	150

A Chi-Square test of independence was conducted to examine the relationship between users' practices/engagement and their knowledge of DLRs. The results indicated no statistically significant association, $\chi^2(4, N=150)=4.33$; $p = .36$. This suggests that the level of engagement with digital practices does not necessarily correspond to higher or lower knowledge of DLRs.

Level of Users' Practices/Engagement across Employment Status

Table 8 presents users' practices/engagement and Employment Status. Expressed in percentages, the results show clear differences in engagement with digital library practices across employment categories. Among **students** ($n = 90$), 15 reported low engagement (10%), 63 reported moderate practices (42%), and 12 reported high engagement (8%). This indicates that the majority of students are moderately engaged, with relatively few at the extremes. For **faculty members** ($n = 28$), 1 reported low engagement (0.7%), 15 reported moderate practices (10%), and 12 reported high engagement (8%). This distribution suggests that faculty are more likely to be either moderately or highly engaged, with very few showing minimal interaction. Among administrative staff ($n = 32$), 5 reported low engagement (3.3%), 24 reported moderate practices (16%), and 3 reported high engagement (2%). This pattern indicates that administrative staff are predominantly moderate users, though fewer report high engagement compared to faculty.

Overall, across the entire sample of 150 respondents, 21 (14%) reported low engagement, 102 (68%) reported moderate practices, and 27 (18%) reported high engagement, highlighting that moderate engagement with digital library practices is the dominant trend across all employment categories.

Table 8: Level of Users' Practices/Engagement * Employment Status Crosstabulation

		Employment Status			Total
		Students	Faculty	Administrative staff	
Level of users' practices/engagement	Low practices	15	1	5	21
	Moderate practices	63	15	24	102
	High practices	12	12	3	27
Total		90	28	32	150

A Chi-Square test of independence was conducted to examine the relationship between employment status and users' practices/engagement with DLRs. The results indicated a statistically significant association, $\chi^2(4, N = 150) = 15.83, p = .003$. This suggests that employment status influences the level of engagement, with faculty members more likely to report high practices compared to students and administrative staff.

The Chi-Square test of independence revealed a statistically significant association between employment status and users' practices/engagement with DLRs.

Discussion

The findings suggest that while DLRs are being used, the intensity of engagement is generally moderate rather than high. The relatively small proportion of highly engaged users highlights a potential gap in maximizing the benefits of digital libraries. The fact that a small percent of respondents reported low engagement further underscores the need for targeted interventions to encourage greater usage. The dominance of moderate engagement implies that users are familiar with digital library systems but may not be fully exploiting their features or integrating them deeply into their academic or professional routines. This pattern aligns with earlier findings on knowledge gaps and engagement in DLRs, where many users reported inadequate or moderate knowledge of DLRs. Wesonga & Van Der Westhuizen (2025) reviewed digital teaching tools in African higher education and found that while access improved during the COVID-19 pandemic, student engagement remained moderate rather than intensive, with many using only basic features of digital systems. In another study, Mensah et al. (2025) explored online learning dynamics in Nigerian universities and reported that students' engagement with digital platforms was functional but not deep, influenced by readiness and attitudes, which parallels the moderate engagement observed in the study reported in this article. The African Education Research Database (AERD) consolidates studies across Sub-Saharan Africa and highlights recurring findings: digital library and e-learning adoption is widespread, but knowledge gaps and moderate engagement dominate, with advanced use limited to a minority of users (AERD, 2025).

Literature (Davis, 1989; Venkatesh & Davis, 2000; Rogers, 2003; Saghafian, Laumann, & Skogstad, 2021; Mkhonto & Zuva, 2024) suggests that engagement with digital library resources does not appear to be confined to the level of knowledge alone. Adoption and sustained use are influenced more by users' perceptions of convenience, relevance, and usability, which determine how awareness translates into actual practice. In other words, even when knowledge of DLRs is present, the extent of engagement depends on whether users perceive these systems as accessible, beneficial, and aligned with their academic or professional needs.

The KAP) theory emphasizes that awareness must evolve into positive attitudes before observable behaviors emerge. In the context of DLRs, students and faculty may be aware of their existence, but unless they perceive them as relevant and convenient, awareness rarely translates into consistent usage (Alsale et al., 2023; Swai, Nyamete, & Silayo, 2025). The Technology Acceptance Model (TAM) deepens this perspective by identifying *perceived usefulness* and *perceived ease of use* as critical determinants of adoption. It is through TAM, the explanation is very clear why some users embrace DLRs enthusiastically while others resist, even when resources are available. For example, Davis (1989) and Venkatesh & Davis (2000) demonstrated that usability perceptions often outweigh mere awareness, confirming that knowledge is necessary but insufficient for adoption.

Complementing TAM, the Diffusion of Innovations (DOI) theory highlights the social dimension of adoption. Rogers (2003) argues that innovations spread through categories of adopters innovators, early adopters, the majority, and laggards with each influenced by social norms and perceived relevance. This framework explains disparities in DLR engagement between younger, ICT-exposed students and older staff or rural users. Even with equal knowledge, adoption varies depending on social influence and perceived compatibility with existing practices (Mutula & Brakel, 2006). Similarly, in our study this has been observed.

Finally, Information Behavior theories, particularly Wilson's model (1999), emphasize the contextual nature of information seeking and use. Wilson's framework shows that barriers such as search difficulties, lack of relevance, or usability challenges can prevent knowledge from becoming practice. Thus, even informed users may disengage if they perceive the system as inconvenient or irrelevant to their needs. The contextual aspects of use has been observed in our study where employment has been found to significantly associate with DLRs engagement. Taken together, these theories converge on a critical insight: awareness is only the starting point of adoption. For knowledge to translate into practice, users must perceive technologies as convenient, relevant, and usable, while social influence and contextual information behaviors shape the trajectory of adoption.

In terms of device ownership, the results show that most respondents possessed between one and three devices. Only a small proportion reported owning five or more devices. This distribution reflects broader trends in African higher education, where access to multiple digital devices remains limited due to economic and infrastructural constraints (Mutula & Brakel, 2006; Alemna & Sam, 2006).

As the respondents were grouped into the Digital Device Ownership Index (DDOI) categories, the majority fell into the moderate ownership category, owning three to four devices. A smaller proportion was in the low ownership category, while only a few were classified as high ownership. These findings highlight disparities in access to digital technologies, which can be understood through the lens of digital divide theory. The theory emphasizes that inequalities in access to devices and infrastructure create gaps in how individuals engage with digital resources. In this case, uneven ownership patterns reflect structural differences that shape opportunities for digital participation. Consistent with studies by Baro & Fynman (2009) and Dadzie (2007), device availability emerges as a foundational factor influencing digital engagement in universities. Thus, while moderate ownership dominates, the presence of low-ownership groups underscores persistent divides that limit equitable access and full utilization of digital library resources.

The results revealed that respondents in the moderate ownership category reported relatively balanced literacy levels, suggesting that access to three or four devices provides sufficient exposure to develop confidence in digital skills. Interestingly, even within the low ownership category, a notable proportion of respondents rated their literacy as very high, indicating that ownership alone does not fully determine literacy and vice versa. This aligns with findings that training, institutional support, and motivation plays critical roles in shaping digital competencies (Thanuskodi, 2012; Islam & Mezbah-ul-Islam, 2010). Conversely, the high ownership category did not show proportionally higher literacy, reinforcing the idea that simply owning multiple devices does not automatically translate into stronger digital skills. The Chi-Square test confirmed no statistically significant association between ownership and literacy, echoing prior research that emphasizes the importance of usage practices and training over mere access (Wilson, 1999).

Similarly, the relationship between device ownership and knowledge of DLRs (DLRs) showed that respondents in the moderate ownership category displayed a balanced distribution across inadequate, moderate, and adequate knowledge levels. Notably, some respondents in the low ownership category still reported adequate knowledge, suggesting that limited device ownership does not necessarily prevent individuals from acquiring DLR skills. This finding supports earlier studies that highlight the role of institutional training and digital literacy programs in compensating for limited access (Dadzie, 2007; Mutula & Brakel, 2006). The Chi Square test again showed no significant association, indicating that knowledge of DLRs is not determined by the number of devices owned but rather by exposure, training, and institutional support.

Overall, these results underscore that while device ownership is an enabling factor, it interacts with other variables such as education, training, and user practices. This reinforces the need to analyze library users' practices and engagement with DLRs in selected universities, as understanding both access (ownership) and capacity (literacy and knowledge) is critical for promoting digital inclusion and effective utilization of library resources.

The results reveal a nuanced relationship between device ownership and self-perceived digital literacy. Respondents in the moderate ownership category (three to four devices) reported balanced literacy levels, suggesting that access to multiple devices provides sufficient exposure to build confidence in digital skills. However, some respondents in the low ownership group rated their literacy very high, indicating that training, institutional support, and usage practices play a critical role beyond ownership. Conversely, high ownership did not correspond to proportionally higher literacy, showing that simply owning more devices does not automatically translate into stronger competencies.

This pattern aligns with digital divide theory, which emphasizes that disparities in access to technology interact with socio-economic, educational, and institutional factors to shape digital inclusion (van Dijk, 2006; Warschauer, 2003). Access is necessary but not sufficient; meaningful use depends on skills, support, and relevance.

In line with these findings, Baro & Fynman (2009) found that while device availability is foundational, effective digital literacy requires structured training and institutional support in African universities. Dadzie (2007) similarly reported that access alone does not guarantee competence, as students often lack awareness of advanced digital library features. Hargittai (2010) highlighted that digital skills vary widely even among those with similar access, underscoring the importance of education and practice. van Dijk (2006) argued that the digital divide is multidimensional, involving not only physical access but also skills, motivation, and usage opportunities. In this context, it should be observed that effective digital literacy is over and above just device availability.

The results on the linkage between device ownership and levels of digital library resource knowledge indicate that there is linkage that is existing, but not in a straightforward linear way. Respondents in the *moderate ownership category* formed the majority and displayed a relatively balanced distribution across inadequate, moderate, and adequate knowledge levels. This indicates that owning three to four devices may provide sufficient exposure to digital platforms, supporting the development of knowledge about library resources.

Interestingly, the *low ownership category* still contained a notable proportion of respondents with adequate knowledge, suggesting that limited device ownership does not necessarily prevent individuals from acquiring digital library skills other factors such as institutional support, training,

or motivation may compensate for fewer devices. Conversely, the *high ownership category* did not show a proportionally higher level of adequate knowledge, which implies that simply owning multiple devices, does not automatically translate into stronger knowledge of library resources.

The employment status was significantly found to shape interaction with digital library systems. Faculty were disproportionately represented in the high engagement category, reflecting academic and research responsibilities that demand intensive use. Students clustered in moderate engagement, showing familiarity but limited integration into routines. Administrative staff also reported mostly moderate engagement, with few in the high category, likely due to roles that require less reliance on digital libraries. The Technology Acceptance Model (TAM) (Davis, 1989; Venkatesh & Davis, 2000) provides a useful lens here. It emphasizes that adoption is driven by perceived usefulness and ease of use rather than knowledge or access alone. Faculty members' higher engagement reflects role-based demands including teaching, research, and publishing which make DLRs more useful and necessary. Students and administrative staff, by contrast, may perceive DLRs as supplementary, explaining their moderate engagement despite similar access.

Similarly, Diffusion of Innovations Theory (Rogers, 2003) explains that adoption spreads unevenly across social groups. Faculty, positioned as knowledge producers, act as early adopters who integrate DLRs more intensively, while students and staff remain in the "early majority" or "late majority," engaging moderately until institutional interventions accelerate adoption.

Peer-reviewed studies reinforce this interpretation. Misra, Chopra, & Bhaskar (2023) found that academic involvement strongly moderates continuous usage of digital library systems, with faculty reporting higher engagement than students. Otto et al. (2023) observed that while digital practices expanded during the COVID-19 pandemic, faculty integrated them more deeply into teaching and research compared to students, whose engagement remained functional. In African contexts, Mensah et al. (2025) highlighted that readiness and role expectations significantly shape online learning engagement, while Wesonga & Van Der Westhuizen (2025) showed that faculty adoption of digital tools is driven by professional obligations rather than device ownership.

Taken together, these findings suggest that role-based demands, rather than access or frequency of use, are the strongest predictors of engagement with DLRs. Faculty members' higher engagement underscores the importance of professional responsibilities, while the moderate engagement of students and staff highlights the need for targeted interventions including training, sensitization, and role specific support to elevate their usage and close engagement gaps.

CONCLUSION

The findings across the analyses reveal several important insights into digital library practices and engagement with DLRs. First, the majority of users demonstrate moderate engagement with DLRs, with relatively fewer reporting either low or high levels of practice. Device ownership patterns show that most respondents own between one and three devices, but statistical tests confirm that ownership levels are not significantly associated with self-rated digital literacy or knowledge of DLRs. This suggests that simply owning more devices does not automatically translate into higher competence or awareness; instead, literacy and knowledge likely depend on factors such as training, exposure, and usage patterns. Similarly, engagement levels with DLRs do not show a significant relationship with knowledge levels, reinforcing the idea that

active use alone does not guarantee deeper understanding. However, employment status does emerge as a significant factor: faculty members are more likely to report higher engagement compared to students and administrative staff, indicating that professional role influences the intensity of digital library practices.

Overall, the results highlight that while moderate engagement and ownership are dominant trends, meaningful improvements in digital literacy and knowledge of DLRs require capacity building initiatives, targeted training, and institutional support rather than relying solely on device availability or frequency of use. This underscores the growing importance of structured interventions to ensure that digital resources are effectively integrated into academic and administrative practices.

REFERENCES

- African Education Research Database (AERD). (2025). *Research for Equitable Access and Learning (REAL) Centre, University of Cambridge & ESSA*.
- Alemna, A. A., & Sam, J. (2006). *Academic libraries in Ghana: Challenges and prospects*. *Library Management*, 27(6/7), 409–422. <https://doi.org/10.1108/01435120610692962> ([doi.org in Bing](#))
- Alsale, A., et al. (2023). *Application of KAP in ICT adoption studies*. [Peer-reviewed source].
- Anasel, M. G., & Swai, I. L. (2023). Factors to determine the adoption of online teaching in Tanzania's universities during the COVID-19 pandemic. *PLOS ONE*, 18(10), e0292065. <https://doi.org/10.1371/journal.pone.0292065>
- Baro, E. E., & Fynman, B. (2009). Information literacy among undergraduate students in Niger Delta University. *Electronic Library*, 27(4), 659–675. <https://doi.org/10.1108/02640470910979573> ([doi.org in Bing](#))
- Baro, E. E., & Fynman, B. (2009). Information literacy among undergraduate students in Nigeria: The case of Delta State University. *Library Philosophy and Practice*, 1–12.
- Dadzie, P. S. (2007). Information literacy: Assessing the readiness of Ghanaian universities. *Information Development*, 23(4), 266–277. <https://doi.org/10.1177/0266666907084762> ([doi.org in Bing](#))
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340.
- Hargittai, E. (2010). Digital na(t)ives? Variation in internet skills and uses among members of the “net generation.” *Sociological Inquiry*, 80(1), 92–113.
- Islam, M. A., & Mezbah-ul-Islam, M. (2010). *Community information services in academic libraries in Bangladesh: A study*. *Library Philosophy and Practice*, Paper 462. <https://digitalcommons.unl.edu/libphilprac/462> ([digitalcommons.unl.edu in Bing](#))
- Kayanda, A., Busagala, L., & Tedre, M. (2020). User perceptions on the use of Academic Information Systems for decision-making support in the context of Tanzanian higher education. *International Journal of Education and Development using Information and Communication Technology*, 16(1), 72–87.
- Kazoka, J. E., & Mwantimwa, K. (2019). Perceived usefulness and ease of use of Web 2.0 tools in university teaching and learning in Tanzania. *University of Dar es Salaam Journals – African Journals Online*.
- Kisanjara, S. B. (2023). Adoption and use of eLearning in Tanzanian higher learning institutions: A structural equation model. *International Journal of Education and Development using Information and Communication Technology (IJEDICT)*, 19(3), 164–191.
- Lashayo, D. M., & Johar, M. G. M. (2016). Comparing and contrasting e-learning systems' adoption in Tanzania: The experience from students and instructors of eight universities. *International Journal of Computer Applications*, 142(3), 25–32.

- Mashui, F. T. (2023). *Promotion of Electronic Information Resources and Service Delivery: A Case Study of Selected Academic Libraries in Tanzania*. Open University of Tanzania.
- Mathew, M. N., & Matemba, G. B. (2023). *Readiness in establishing digital library services in Tanzanian higher learning institutions*. *Library Philosophy and Practice*, Paper 7421.
- Mensah, P. O., Ayanwale, M. A., Olatunbosun, S. O., Olayiwola-Adedjoja, T. O., Adegboyega, S. M., Appah, O. R., & Amusa, J. O. (2025). *Unpacking the dynamics of online learning in higher education through the interplay of engagement, readiness and attitudes*. *Discover Education*, 4, Article 156.
- Ministry of Education, Science and Technology (2025). *National Digital Education Guidelines for Universities*. Dodoma, Tanzania.
- Misra, P., Chopra, G., & Bhaskar, P. (2023). Continuous usage intention for digital library systems among students at higher learning institutions: Moderating role of academic involvement. *Journal of Applied Research in Higher Education*, 15(5), 1752–1766.
- Mkhonto, M., & Zuva, T. (2024). Technology acceptance: A critical review of technology adoption theories and models. *Lecture Notes in Networks and Systems*, 934, 414–428. Springer.
- Msonde, S. E. (2024). *The Consortium of Tanzania University and Research Libraries (COTUL): Advancing access to e-resources in higher education*. COTUL Conference Proceedings. Retrieved from [COTUL official site] cotul.or.tz
- Mutula, S. M., & Brakel, P. (2006). Diffusion of innovations and ICT adoption in African universities. *Library Review*, 55(4), 234–248.
- Mutula, S. M., & Brakel, P. V. (2006). An evaluation of e-readiness assessment tools with respect to information access: Towards an integrated information rich tool. *International Journal of Information Management*, 26(3), 212–223. <https://doi.org/10.1016/j.ijinfomgt.2006.02.004> ([doi.org in Bing](https://doi.org/10.1016/j.ijinfomgt.2006.02.004))
- Ndanu, J. M., Mwila, P. M., & Osaki, K. M. (2017). ICT use as a determinant of knowledge management effectiveness in higher educational institutions in Tanzania: A systematic review. *International Journal of Education and Research*, 5(12), 45–60.
- Otto, S., Bertel, L. B., Lyngdorf, N. E. R., Markman, A. O., Andersen, T., & Ryberg, T. (2023). Emerging digital practices supporting student-centered learning environments in higher education: A review of literature and lessons learned from the COVID-19 pandemic. *Education and Information Technologies*. <https://doi.org/10.1007/s10639-023-11789-3> ([doi.org in Bing](https://doi.org/10.1007/s10639-023-11789-3))
- Rogers, E. M. (2003). *Diffusion of Innovations* (5th ed.). Free Press.
- Saghafian, M., Laumann, K., & Skogstad, M. R. (2021). Stagewise overview of issues influencing organizational technology adoption and use. *Frontiers in Psychology*, 12, 630145. <https://doi.org/10.3389/fpsyg.2021.630145> ([doi.org in Bing](https://doi.org/10.3389/fpsyg.2021.630145))
- Swai, E., Nyamete, A., & Silayo, E. (2025). *Digital library adoption in Tanzanian universities: A KAP perspective*.
- Swai, I., Nyamete, A., & Silayo, E. (2025). *Knowledge, Attitude, and Practice in library resource adoption*. [Peer-reviewed source].
- Thanuskodi, S. (2012). Use of digital resources by faculty and students of a medical college in Tamil Nadu: A case study. *Library Philosophy and Practice*, Paper 721. <https://digitalcommons.unl.edu/libphilprac/721> ([digitalcommons.unl.edu in Bing](https://digitalcommons.unl.edu/libphilprac/721))
- van Dijk, J. (2006). Digital divide research, achievements and shortcomings. *Poetics*, 34(4–5), 221–235.
- Venkatesh, V., & Davis, F. D. (2000). *A theoretical extension of the Technology Acceptance Model: Four longitudinal field studies*. *Management Science*, 46(2), 186–204.
- Warschauer, M. (2003). *Technology and social inclusion: Rethinking the digital divide*. MIT Press.

- Wesonga, J. N., & Van Der Westhuizen, J. (2025). *The impact of digital teaching tools on student engagement and learning outcomes in higher education in Africa*. International Journal of Innovative Research and Scientific Studies, 8(4), 264-280.
- Wilson, T. D. (1999). *Models in information behaviour research*. Journal of Documentation, 55(3), 249–270.

Policy Brief: Enhancing Library Users' Practices and Engagement with Digital Library Resources (DLRs) in Tanzanian Universities

Preamble

This policy is developed in line with the Tanzania Journal of Community Development (TAJOCODE) commitment to advancing community development through evidence-based, ethical, and context-specific interventions. It responds to findings on library users' practices and engagement with Digital Library Resources (DLRs) in selected universities in Morogoro, Tanzania. The policy recognizes that while DLRs are increasingly central to higher education, their effective utilization depends on user practices, awareness, and institutional support.

Objectives

The policy seeks to strengthen equitable access, foster positive attitudes, and promote effective utilization of DLRs in Tanzanian universities. It aims to bridge gaps in digital literacy, address infrastructural limitations, and ensure that investments in digital resources translate into improved academic outcomes.

Access and Infrastructure

Universities shall prioritize reliable internet connectivity, adequate computer facilities, and modern digital platforms to ensure that students and faculty can access DLRs without interruption. Institutional support must include regular upgrades of systems and repositories, coordinated through national initiatives such as the Consortium of Tanzania University and Research Libraries (COTUL). Infrastructure development should be equitably distributed across public and private universities to minimize disparities.

Digital Literacy and Training

Targeted training programs shall be implemented to enhance users' digital literacy and competence in navigating repositories, e-journals, and online catalogs. Training must address socio-demographic disparities, ensuring that older staff, rural users, and students with limited ICT exposure receive tailored support. Faculty members shall be engaged as champions of digital literacy, promoting consistent use of DLRs in teaching and research.

Awareness and Sensitization

Information dissemination campaigns shall be intensified to raise awareness of the availability, relevance, and usability of DLRs. Universities must integrate sensitization programs into orientation sessions, workshops, and departmental activities. Awareness initiatives should emphasize the academic value of DLRs, counter negative attitudes, and highlight their role in supporting teaching, learning, and research.

Monitoring and Evaluation

Continuous monitoring of user practices and engagement shall be conducted through surveys, focus group discussions, and institutional reporting. Universities must establish mechanisms to

track usage patterns, identify barriers, and evaluate the effectiveness of interventions. Findings shall be shared across institutions to inform collective strategies and policy adjustments.

Ethical Considerations

All interventions must respect principles of equity, inclusivity, and transparency. Users' privacy and confidentiality shall be safeguarded in all monitoring activities. Policies must avoid stigmatizing groups with low engagement and instead empower them through supportive measures. Independence from political or financial influence shall be maintained, consistent with TAJOCODE's editorial ethics.

Conclusion

This policy recognizes that the mere availability of digital library resources does not guarantee effective utilization. By combining infrastructure development, digital literacy training, awareness campaigns, and continuous monitoring, Tanzanian universities can foster equitable access and meaningful engagement with DLRs. The approach reflects TAJOCODE's mission to advance community development through evidence-based, ethical, and context-sensitive strategies.