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THE ACCESSIBILITY OF REPACKAGED DIGITAL INFORMATION TO STUDENT GROUPS DURING COLLECTIVE INFORMATION SEEKING IN RURAL HIGHER LEARNING INSTITUTIONS

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Abstract:
The purpose of this study is to investigate the accessibility of repackaged digital information to student groups during collective information seeking in rural higher learning institutions (RHLI) in Tanzania. Specifically, the study seeks to evaluate how the digital repackaged information is accessed during collective information seeking (CIS) among students in rural higher learning institutions (RHLI), assess the importance of accessing the repackaged digital information during CIS, assess the challenges encountered by RHLI student groups when accessing the repackaged digital information and propose an appropriate model that improves the accessibility of repackaged digital information to RHLI student groups during CIS in RHLI. The Shah's (2008) Model of Collective Information Seeking Behavior (CISB) was anchored to conduct this study. The population of the study comprised selected RHLI students in Tanzania's rural settings. The purposive sampling technique was used to select the study participants. Specifically, the proposed study used convenience sampling to select RHLI students for inclusion in focus group discussions, interview and to fill the questionnaires. The data for the study were collected through the use of questionnaires, interviews and focus group discussions to collect qualitative data and quantitative data. Qualitative data were analysed through thematic analysis. Thematic analysis helped to develop different themes relating to the specific objectives of this study. A mixed approach of qualitative and quantitative methods was used to conduct this study. Shortage of gray literature in RHLI to be used for accessing the digital repackaged information, inadequate ICT facilities, unreliability of internet and electricity and lack of required IL skills to access digital repackaged information to accomplish group assignments among RHLI student groups were the common challenges across all RHLI student groups of different professionalism.

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Keywords: accessibility of digital repackaging information, how digital repackaged information is accessed, collective information seeking, student groups, rural higher learning institutions, rural library settings in Tanzania

1. Introduction

The accessibility of digital repackaged information is a new area of study, providing library patrons with an easy way to access information in a simple, reliable, and more attractive format to support collective information seeking. The accessibility of repackaged digital information to student groups during collective information seeking (CIS) addresses the challenge of retrieving information in RHLI in Tanzania. A number of information repackaging efforts have focused on rural development (Dogara, Yashim and Peter, 2022). The accessibility of digital information helps meet the information needs of library users. In the present information age, rendering of information repackaging services is vital in libraries to meet the information requirements of patrons (Bello & Ajo, 2018).

In the present information age, access to digital information is vital in libraries to meet patrons' information requirements (Bello & Ajo, 2018). Similar findings from Dogara, Yashim, and Peter (2022) reveal that accessing repackaged digital information is a readily available tool for effective information service delivery, enabling library users to understand the context in a more attractive format. The accessibility of repackaged digital information is an effective way to meet the information requirements of library patrons (Dogara, Yashim, and Peter, 2022).

This study establishes the importance of accessing digital repackaged information in rural higher learning institutions (RHLIs) in Tanzania when student groups are assigned practical assignments.

The accessibility of repackaged digital information helps to understand users' digital information requirements and to disseminate the required information to the intended users. The task of accessing repackaged digital information requires that information users' groups know their information needs (Dogara, Yashim, and Peter, 2022).

1.1 Problem Statement

RHLI student groups in Tanzania are unable to access the digital repackaged information needed to complete their group assignments due to insufficient digital repackaged information in RHLI libraries. There is no consistency in the digital repackaging of digital information in RHLI libraries that guarantees its accessibility to subjects offered in RHLI. Therefore, for the library to meet the digital information requirements of all RHLI student groups across all professional groups remains an open question. The student groups in RHLI also lack digital skills to access and repurpose collective digital information to accomplish their group tasks. On a global scale, a systematic review by Tinmaz et al.

(2022) highlights that digital literacy is now an essential competency for effective participation in an information-based society.

1.2 Aim and Objectives of the Study

The aim of this study is to investigate the accessibility of repackaged digital information to student groups during collective information seeking in RHLI in Tanzania. Specifically, the study seeks to:

1) Evaluate how the digital repackaged information is accessed during collective information seeking (CIS) among student groups in RHLI,
2) Assess the importance of accessing the repackaged digital information during CIS in RHLI,
3) Assess the challenges encountered by RHLI student groups when accessing the repackaged digital information during CIS in RHLI,
4) Assess the solutions on how to overcome the challenges of accessing digital repackaged information in RHLI,
5) Propose an appropriate model that improves the accessibility of repackaged digital information to student groups during CIS in RHLI.

1.3 Research Questions

1) How is the digitally repackaged information accessed during collective information seeking (CIS) among student groups in RHLI?
2) What is the importance of accessing the repackaged digital information during CIS in RHLI?
3) What are the challenges encountered by student groups when accessing the repackaged digital information during CIS in RHLI?
4) What are the solutions for overcoming the challenges of accessing digital repackaged information in RHLI?
5) What is a recommended and appropriate model that improves the accessibility of repackaged digital information to student groups during CIS in RHLI?

2. Method

2.1 Research Design

This study used mixed approaches of qualitative and quantitative. Both methods offer a more complete picture than either method used alone. Qualitative research excels at exploring in-depth meanings, while quantitative research provides measurable data in a broader picture. This study employed descriptive approaches to the qualitative data. Qualitative research aims to develop a rich, detailed understanding of theories, concepts, and constructs. This method also provided all-inclusive and complete views of group behavior during the CIS process to the digital repackaged information, and also it also increases the validity of the research results using descriptive data and statistical findings. More specifically, qualitative methodologies allow researchers to get

explanations for a phenomenon, so that they can assign in-depth meanings to their findings (Kouamé & Langley, 2018). All qualitative data were organised into categories and coded based on the established themes. Participants' views were analysed to obtain their perceptions, understanding, and meaning attached to a subject in context. NVivo Version 7 Computer software used to code, sort, categorise and analyse the data. The data for the study were collected through the use of questionnaires, interviews and focus group discussions (FGD). Face-to-face interviews offer an advantage because in-person conversations can create a safe, comfortable atmosphere for interviewees to express their views (Saarijärvi & Bratt, 2021). In this regard, Basil (2019) contends that FGDs are advantageous because they constitute an expressive collecting data means that yields a lot of information in a relatively short time; the method is, in fact, a resource-saving data collection approach appropriate for investigating the reality of life and experiences of the respondents (Seven et al., 2021).

Student groups of RHLI were given group assignments to accomplish. The participants worked on two tasks in a computer lab to access digital repackaged information in the library settings. A review of the methodology used in CIS studies showed that computer lab settings were the most common method of data collection during collective information seeking (Hertzum, 2019). In this study, the researcher purposively recommended final-year students from each RHLI because they are more experienced in accessing digital repackaged information during CIS. Purposive sampling was conducted on convenience and purposive samples that were randomly drawn. A convenience sample is one drawn from a source that is readily accessible to the researcher.

Below are presented the details of the methodology used to conduct this study

2.1. Participants

The study recruited 72 participants from the second year of RHLI in Tanzania's rural areas: 36 RHLI students for an interview and questionnaire, and 36 RHLI students for a focus group discussion (FGD). The participants were between 21 and 30 years old. 10 students of RHLI (56%) were male, and 8 students of RHLI (44%) were female during the interview and focus group discussion. The participants were randomly selected from those who expressed interest, resulting in 72 participants. From the outset, the respondents were briefed beforehand about the study in line with established research protocols. Thereafter, participants had to sign consent forms after briefings to provide informed consent. The interview participants of three (3) pairs in each RHLI who signed up were given the group task to accomplish. They are required to be familiar with the use of digital libraries, especially on how to seek the digitally repackaged information on the internet. The participants chose the day and time convenient for them for their sessions. Then, they performed two collective information-seeking (CIS) tasks on the internet.

3. Literature Review and Theoretical Underpinning

3.1 The Accessibility of the Digital Repackaged Information

The library service could effectively shift from the exploitation of printed information to the repackaging of information for transmission in other forms, such as digital formats, to assist their patrons in meeting their digital information needs (Dogara, Yashim and Peter, 2022). Modern information technology assists in ensuring that users can access repackaged information in digital format. The term accessing repackaged information refers to the ability and method of making information available to groups of people in a format that is most accessible to them, rather than the former format that was difficult for them to understand or access (Dawha, Aliyu, and Ailakhu, 2020).

Repackaging information in digital form on an electronic medium, such as a CD or DVD, is a process that consolidates analysis and presents it in a form more suitable and usable for library users (Dogara, Yashim, and Peter, 2022). The findings from Andrews and Goodson (2019) reveal that indexing and abstracting, selective dissemination of information (SDI), translation services, bibliographies, special bulletins, and other current awareness services are all attempts to provide digital repackaged information in a usable format to users.

Ajewole (2018) suggests that the delivery of digital information to users must be interpreted, repackaged, and tailored to their situation, helping them act on the information they receive.

3.2 Importance of Accessing the Digital Repackaged Information

Rogers (2014) asserts that it is vital to access repackaged, targeted information. The digital repackaging of information assists users in understanding it for use. The findings of Blank and Ryan (2020) show that information must be interpreted and presented in a form the user can understand and assimilate.

A number of information repackaging efforts have focused on rural development (Dogara, Yashim and Peter, 2022). The exercise of repackaging digital information involves collecting, processing, and applying the required information, and designing and repackaging information according to user demands (Rogers, 2014). Repackaging digital information: the message carried in digital formats attracts readers (Dogara, Yashim, and Peter, 2022). The findings from Dogara, Yashim and Peter (2022) reveal that the digital repackaging of information assists in designing messages delivered to users in several shapes and sizes. Repackaged digital information helps customise information to user needs, facilitates its dissemination, and assists in its organisation and communication to users (Dogara, Yashim, and Peter, 2022). The information is customized according to the information users' needs basing on the required format (Ayandokun & Nworu, 2022).

Access to repackaged digital information assists users in obtaining currency, accuracy, pertinence, comprehensiveness, ease of comprehension, and convenience of use (Dogara, Yashim, and Peter, 2022). The findings from Dogara, Yashim and Peter

(2022) reported that repackaged digital information simplifies access to digital information, e.g., an automated bibliography is like a map in the world of information overload, and also assists in addressing specific users' needs (Ajewole, 2018).

Moreover, the repackaging of digital information facilitates interactivity among users, the knowledge base, and technology, enabling information seekers to access relevant, reliable, and usable information and ensuring wider access (Dogara, Yashim, and Peter, 2022).

3.3 Challenges for Accessing the Digital Repackaged Information

Gray literature is important in repackaging digital information, although it may be unattractive and hard to access (Dervin & Dewdney, 2021). The repackaged digital information may lack vital aspects of the document that were omitted during the repackaging process due to the lack of expertise of the person who performed the exercise. There should be the capacity to repackage the digital information, analyse their content, and create new information packages effectively (Dogara, Yashim and Peter, 2022).

Inadequately allocated funds in institutions that hinders to support of the availability of digital repackaged information (Ayandokun & Nworu, 2022). Dogara, Yashim and Peter (2022) reported that information seekers refuse to pay for repackaged digital information because they cannot decode its message or knowledge content.

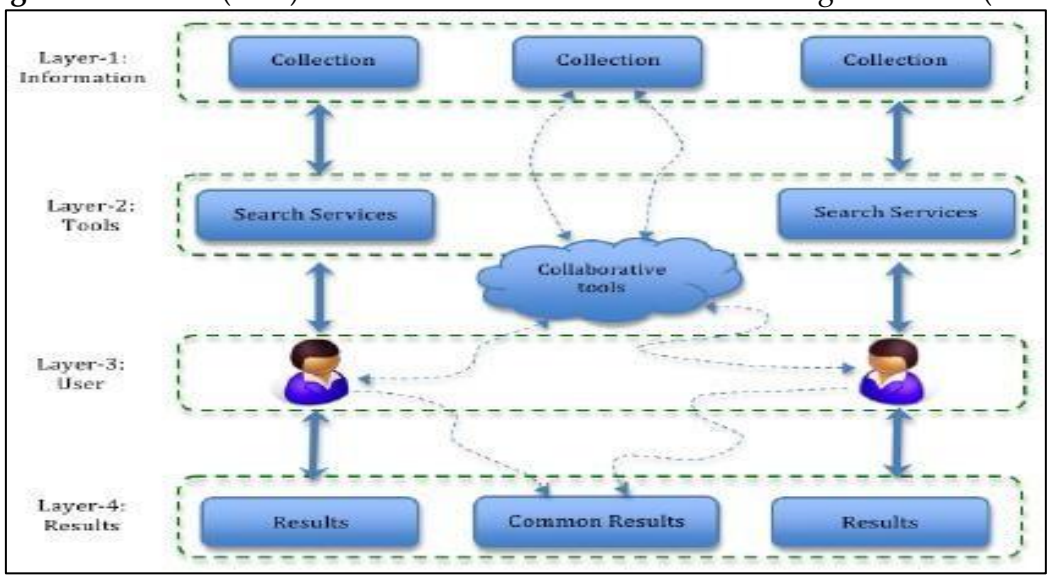
However, challenges persist, including limited digital infrastructure, insufficient librarian competencies, and the absence of national guidelines for adaptive library services to meet patrons' digital information needs (Rahmi et al., 2025).

3.4 Collective Information Seeking Model

Shah's (2008) model for Collective Information Seeking (CIS) had four layers: Information, Tools, User, and Results. The first layer was about information from various sources and formats. The second layer concerned tools and techniques used to access the information, such as search services, relevant feedback, and query term suggestions. The third layer referred to users who utilised tools and techniques to access information. The fourth layer focused on results related to the knowledge and information users collected during their information-seeking process to solve their problems.

However, this study is anchored to apply Shah's (2008) model because this study strived to show collective information seeking of user groups and attendant challenges faced during collective information seeking (CIS) of information seekers. Shah's (2008) model of collective information-seeking behaviour is illustrated in Figure 1.1.

Figure 1.1: Shah's (2008) Model of Collective Information Seeking Behaviour (CISB)



Source: Shah, 2008:4

The collective information-seeking (CIS) model of student groups had three (3) stages during the process.

Stage one (1), the student group needed to effectively define their collective digital repackaged information requirements for their collective assignments after identifying the problem of the group assignment.

Stage two (2): the group uses the search service available in RHLI libraries (via a digital collaborative tool) to access the repackaged digital information. Collectively repackaged digital information helped meet the student groups' collective digital information requirements. When facing any challenges during CIS, needed to redefine their group's digital information requirements. In stage two (2), if the student group faced any challenge during CIS, the CIS process reverted to stage one by restarting the digital repackaged information-seeking process.

Stage three (3), group members shared the digital information retrieved. The shared digital information among group members becomes knowledge. During stage three, the group used repackaged digital information to solve the problem in the collective assignment. In stage three (3), group members shared knowledge to accomplish the group assignment. The finalisation of group assignment in stage three (3) relied on the student group's capacity access the required digital repackaged information during the CIS process.

This model of collective information seeking used the information accessed; in this context, it refers to digital repackaged information used to accomplish group assignments. Agarwal (2022) suggested that models could be created by linking information behavior to other fields such as knowledge, informatics and human-computer interaction.

4. Findings

4.1 How the Digital Repackaged Information Is Accessed during Collective Information Seeking

4.1.1 Interview Findings

The interview findings reveal that students of RHLI have access to digital repackaged practical information on the internet, but this does not cover their professional areas in local content perspective. However, the respondents also reported accessing digital information for all courses offered at RHLI.

The repacked digital information was accessed in RHLI libraries from CD-ROMs, flash drives, WhatsApp groups, e-mails, and the internet using Google searches. The students declared that they did not access the digital repackaged information through the library's online public access catalogue (OPAC) and databases.

Table 1.1 illustrates interview findings on how students in RHLI access repackaged digital information during CIS.

Table 1: Means for Accessing Digital Information

N = 79			
SN	**How Digital Repackaged Information is Accessed**	**Frequency**	**Percentage (%)**
1	Sending and Receiving E-mails	25	31.6
2	WhatsApp Group	22	27.8
3	Google Scholar	10	12.6
4	CDs	12	15.0
5	Institutional Repository (IR)	6	7.6
6	Flash Disc and CD Rom	4	5.0
	Total	**79**	**100.0**

The majority of RHLI student groups accessed digital repackaged information via email (31.6%, n=25), followed by WhatsApp groups (27.8%, n=22). Student groups of RHLI also accessed information through Google Scholar (12.6%, n=10).

The interview findings reveal that student groups of RHLI mentioned the CDs (15%, n=12) as one of the means used to access collective information for their group assignments. A minority of respondents accessed collective information through an institutional repository (7.6%, n=6) and through Flash Disc and CD-ROM (5%, n=4).

4.1.2 Focus Group Discussion Findings

The RHLI student groups, when asked how they accessed digital repackaged information in RHLI libraries, said they accessed it through the internet when searching collectively to accomplish group assignments.

4.1.3 Questionnaires Findings

Table 1.2 below illustrates the findings from questionnaires on how student groups in RHLI libraries access digital repackaged information to accomplish their group assignments.

N = 79			
SN	**How Digital Repackaged Information is Accessed**	**Frequency**	**Percentage (%)**
1	Sending and Receiving E-mails	25	31.6
2	WhatsApp Group	22	27.8
3	Google Scholar	10	12.6
4	OPAC	0	0.0
5	Databases	0	0.0
6	CDs	12	15.0
7	Institutional Repository (IR)	6	7.6
8	Flash Disc and CD Rom	4	5.0
	Total	**79**	**100.0**

The questionnaire findings indicate that student groups in RHLI use e-mail (31.6%, n=25) and WhatsApp groups (27.8%, n=22) primarily to access collective information. The respondents also reported accessing collective repackaged information through CDs (15%, n=12). Google Scholar (12.6%, n=10) was also another means used by student groups in RHLI to access collective information to accomplish group tasks. Other respondents mentioned institutional repositories (7.6%, n=6) and Flash Disc and CD-ROM (5%, n=4) to access collective information for group assignments.

However, neither OPAC (0%, n=0) nor databases (0%, n=0) were mentioned as the source of accessing collective information in RHLI.

4.2 Importance of Accessing the Digital Repackaged Information

4.2.1 Interview Findings

The results of the interview with the groups of respondents in RHLI libraries in Babati districts, when asked about the importance of accessing the digital repackaged information, indicated that it saves time to access the digital repackaged information to accomplish group assignments. Another interview respondent noted that accessing digital repackaged information provides the flexibility to share information in different formats, such as PDF and Word documents.

Moreover, the interview findings show that repackaged digital information helps information seekers better understand information due to the digital information overload on the internet.

However, the findings from the interview reveal another importance of accessing digital repackaged information: easy understanding of information when doing citations during empirical research.

4.2.2 Questionnaire Findings

Table 1.3 reveals the importance of accessing digital repackaged information in RHLI:

Table 1.3: The Importance of Accessing Digital Repackaged Information in RHLI

N = 79			
SN	**Importance of Accessing Digital Repackaged Information**	**Frequency**	**Percentage (%)**
1	Saves time to access the digital repackaged information.	20	25.0
2	Provides the flexibility of sharing information in different formats, like PDF and Word documents.	12	15.0
3	Easy understanding of information as information repackaged according to the academic level of users;	10	12.7
4	Repackaging digital information applies simple language for users to understand.	10	12.7
5	Repackaging digital information facilitates citation as the information is changed from the hard copy document to the electronic document.	5	6.0
6	Repackaged digital information assists information seekers in identifying key points of the message.	8	10.0
7	Repackaging digital information helps to avoid information overload for information seekers.	6	7.6
8	Repackaging digital information uses small spaces in CD Rom and flash disk.	8	10.0
	Total	**79**	**100.0**

The questionnaire findings reveal that repackaging digital information helps save time (25%, n=20) when information seekers access summarised information. The repackaged digital information provides the flexibility to share information in different formats, such as PDF and Word Doc (15%, n=12), to student groups in RHLI.

Accessing digital repackaged information makes it easy to understand (12.7%, n=10), as it is repackaged according to users' academic level; this aligns with repackaged digital information using simple language for users to understand.

The repackaged digital information uses small spaces in CD Rom and flash disk (10%, n=8) when student groups in RHLI access digital information, which is tallying with repackaged information assist information seekers to identify key points of the message (10%, n=8).

The respondents from RHLI reported other importance of repackaging digital information assist in avoiding information overload for information seekers (7.6%, n=6) and repackaging digital information facilitates information seekers to do citation (6%, n=5), as the information is changed from a hard copy document to an electronic document.

4.2.3 Focus Group Discussion Findings

During FGD, one of the RHLI respondents said:

> *"When we access the digital repackaged information, it helps us to save time to access the required digital repackaged information for accomplishing our group assignments. Instead of our group accessing various e-resources, we find only one e-resource, which is abridged for accessing the digital repackaged information resources."*

One of the respondents in RHLI during FGD said:

"The accessibility of digital repackaged practical information helps to assist group members on easy understanding the document's context; accessing massive digital information that may confuse information seekers to select key points which are vital and respond to the group assignment".

4.3 Challenges of Accessing Digital Repackaged Information

The following are the challenges in accessing collective repackaged information that were mentioned by student groups in RHLI during the interview and FGDs:

1) Shortage of gray literature in RHLI to be used for accessing the digital repackaged information.
2) Lack of expertise in RHLI of the manpower for the exercise of repackaging digital information.
3) The digital information in RHLI is not summarized.
4) The digital repackaged information is not written in simple language for student groups of RHLI to understand.
5) Unreliability of electricity and internet in RHLI that supports accessibility of digital repackaged information.
6) Inadequate ICT equipment to support access to digital repackaged information.
7) Lack of information literacy (IL) skills for accessing digital repackaged information among student groups in RHLI.
8) The digital repackaged information in RHLI does not cover the local context of information seekers.
9) The digital repackaged information does not have all qualities of information, i.e., completeness, accuracy, current and reliability.
10) The digital repackaged information is not summarized for information seekers to understand and cover a big space in flash disks and CD Rom.

5. Discussion

5.1 How the Digitally Repackaged Information Is Accessed during Collective Information Seeking

The majority of RHLI student groups accessed digital repackaged information through sending and receiving emails (31.6%, n=25), followed by accessing through a WhatsApp group (27.8%, n=22). Student groups of RHLI also accessed digital repackaged information through Google Scholar (12.6%, n=10). However, different findings from Omosekejimi and Eda (2024) revealed that the use of database systems like Google Drive and D-Space for storage is notably less prevalent, with 80% of respondents indicating these are not utilized. Google Scholar remains one of the best search engines in accessing digital repackaged information; the application uses web-scraping techniques to acquire

research papers from Google Scholar based on user-provided keywords (Vivekrabinson, Vismaya and Singh, 2025).

The interview findings reveal that student groups of RHLI mentioned the CDs (15%, n=12) as one of the means they used to access collective information for their group assignments. The minority of respondents accessed collective information through an institutional repository (7.6%, n=6) and through Flash Disc and CD Rom (5%, n=4). Omosekejimi and Eda (2024) reported the flash drives, hard disks, and CD/DVD ROMs are predominantly utilized, confirmed by the majority of respondents, while personal computing devices also play a significant role in the storage strategy; the majority of respondents affirming the use of flash drives (85.7%), hard disks (82.9%) and CD/DVD ROMs (100%).

5.2 Importance of Accessing the Digital Repackaged Information

The questionnaire findings from respondents show that accessing repackaged digital information saves time during CIS (25%, n=20). The respondents revealed that accessing digital repackaged information saves time when student groups accomplish their group assignments. The student groups access the summarized digital repackaged information in points format that saves time during the process of opening the digital documents when their bites storage space is minimal. Similar findings from Dahwa, Aliyu and Ailakhu (2020) reveal that the accessibility of digital repackaged information saves users time, labour, and costs in accessing the required information; it also guarantees the timely delivery of only relevant information.

The interview findings reveal that the accessibility of repackaged information assists in obtaining reliable information. The reliable information is summarized from the authentic digital information. Dogara, Yashim, and Peter (2022) reveal that repackaging information to meet a user group's needs ensures wider access to relevant, reliable, and usable information.

The findings from the questionnaire show that accessing digital repackaged information provides the flexibility to share information in different formats, such as PDF and Word Doc (15%, n=12). The student groups show the importance of accessing digital repackaged information, as it provides the flexibility to share information in different formats, such as PDF and Word documents. Similar findings from Dogara, Yashim and Peter (2022) reported that the digital repackaged information assists to design message delivered to users in several shapes and sizes.

The FGD findings reveal that repackaging digital information facilitates easier understanding because of the digital information overload on the internet. Similar findings from the questionnaire show that digital information was repackaged to suit users' academic levels, making it easier to understand (12.7%, n=10). The digital repackaging of information assists users in understanding it for use. Blank and Ryan (2020) show that information must be interpreted and presented in a form the user can understand and assimilate.

The repackaged digital information helps information seekers identify key points of the message (10%, n=8). The information seekers access repackaged information in a summary form, which is simple to understand at different academic level depend to the targeted users. The information is summarized during the digital repackaging process to make the beginners to understand any professionalism easier to understand; the professional jargons are removed, and the digital repackaged information applies simple language for beginners to understand. Repackaged digital information assists in customising information according to information seekers' requirements (Dogara, Yashim and Peter, 2022).

Moreover, the questionnaire findings show that accessing repackaged digital information uses small spaces in CD Rom and flash disk (10%, n=8). The student groups in RHLI use small spaces in their storage devices when saving information during CIS.

5.3 Challenges of Accessing Digital Repackaged Information

The shortage of gray literature in RHLI leads to information seekers not accessing information in the area of digital repackaged gray literature. The gray literature is vital for repackaging digital information, although it may be unattractive and hard to access (Dervin & Dewdney, 2021).

Lack of expertise of the manpower in RHLI for the exercise of repackaging digital information; this led to student groups in RHLI not having enough repackaged information to accomplish group assignments. The repackaged digital information may lack vital aspects of the document that were left during the digital repackaging process due to a lack of expertise of the person who did the exercise; there should be the capacity to repackage the digital information, and analyze their content and create new information packages effectively (Dogara, Yashim and Peter, 2022). Inadequate staff in the area of digital information literacy does not promote universal literacy, including digital, media and information literacy (IL) skills (Dahwa, Aliyu and Ailakhu, 2020).

The digital repackaged information in RHLI is not summarized. The overload of digital repackaged information on the net confuses information seekers; there are volumes of digital information that are not summarized for users. Dogara, Yashim and Peter (2022) reported that repackaging digital information, the message carried in digital formats attracts the readers because it is in a summary form.

The repackaged digital information is not written in simple language for RHLI students to understand. The professional jargons are mostly used to present the academic information, which is not well understood by users. Al-Qallaf (2018) revealed that language difficulties hindered the access of digital information to meet users' information requirements during information seeking.

The unreliability of electricity in RHLI, that support accessibility of digital repackaged information, was the common challenge mentioned by all respondents during the interview; similarly, during the FGDs, RHLI student groups mentioned that power cuts and unreliability of the electricity supply hindered access to digital repackaged information during CIS. Similar findings from Nihuka and Voogt (2012)

noted power cuts and unreliable electricity supply, as well as narrow bandwidth, which were experienced as challenges by all instructors when investigating collective e-learning at the Open University of Tanzania. Nihuka and Voogt (2012) showed that the unreliability of electricity hampered the writing of courses, the uploading of courses and resources to Moodle, and the handling of e-mails. When there was a power cut, users had to wait until there was electricity and an improved internet signal (Nihuka and Voogt, 2012). Alternative sources of power should be provided for equipment/facilities to enable an uninterrupted power supply and assist in accessing digital information (Yemi-Peters et al., 2022).

A lack of sufficient ICT equipment to support access to digital repackaged information was also a challenge in RHLI. The computers were not enough for all students to access information during CIS. Student groups from colleges A, B, and C were forced to access computers in shifts to complete their assignments, as revealed by FGDs in RHLI. Thindwa, Chawinga and Dube (2019) reported similar findings to this study, namely that undergraduate security students in Malawi faced a shortage of computer laboratories for academic activities, including accomplishing assignments, preparing for examinations, and completing research projects.

Lack of information literacy (IL) skills among student groups was mentioned during the FGDs as a challenge to accessing repackaged digital information in RHLI. Student groups in RHLI lack the required skills to access the digital repackaged information needed to accomplish their group tasks. Similarly, Luambano's (2016) findings showed that undergraduate distance learning students in Tanzania faced problems with a lack of awareness of online resources and the skills to search the web effectively. Moreover, Klomri and Tedre (2021) found that the number of postgraduate students at the University of Dar-es-salaam in Tanzania mentioned PDF documents as trustworthy, as one student explained: "*First you enter your words and then 'PDF', then you click 'Search', and the information that appears there is trusted.* Omosekejimi and Eda (2024) found that poor ICT skills for managing born-digital records are perceived as a challenge by a minority (7 respondents).

The interview findings reveal that the digital repackaged information in RHLI does not cover the local context of information seekers. The digital repackaged information does not include the local perspectives of information seekers.

The FGDs found that the digitally repackaged information does not have all the qualities of information, i.e., completeness, accuracy, timeliness, and reliability. The accessed digital repackaged information lacks the qualities of effective digital repackaged information, leaving student groups in RHLI poorly informed during collective information seeking (CIS). Access to repackaged digital information assists users in obtaining currency, accuracy, pertinence, comprehensiveness, ease of comprehension, and convenience of use (Dogara, Yashim, and Peter, 2022).

The digital information is not summarized for information seekers to understand and cover a big space in flash disks and CD Rom. The digital information which is available is not abridged and become the huge document which occupy the big space in

flash disks and CDs Rom; when saving documents occupy big space in flash disks and CDs Rom lead to the storage capacity becoming full and not allowing other documents to be saved.

5.4 Recommended Solutions on How to Overcome Challenges of Accessing Digital Repackaged Information

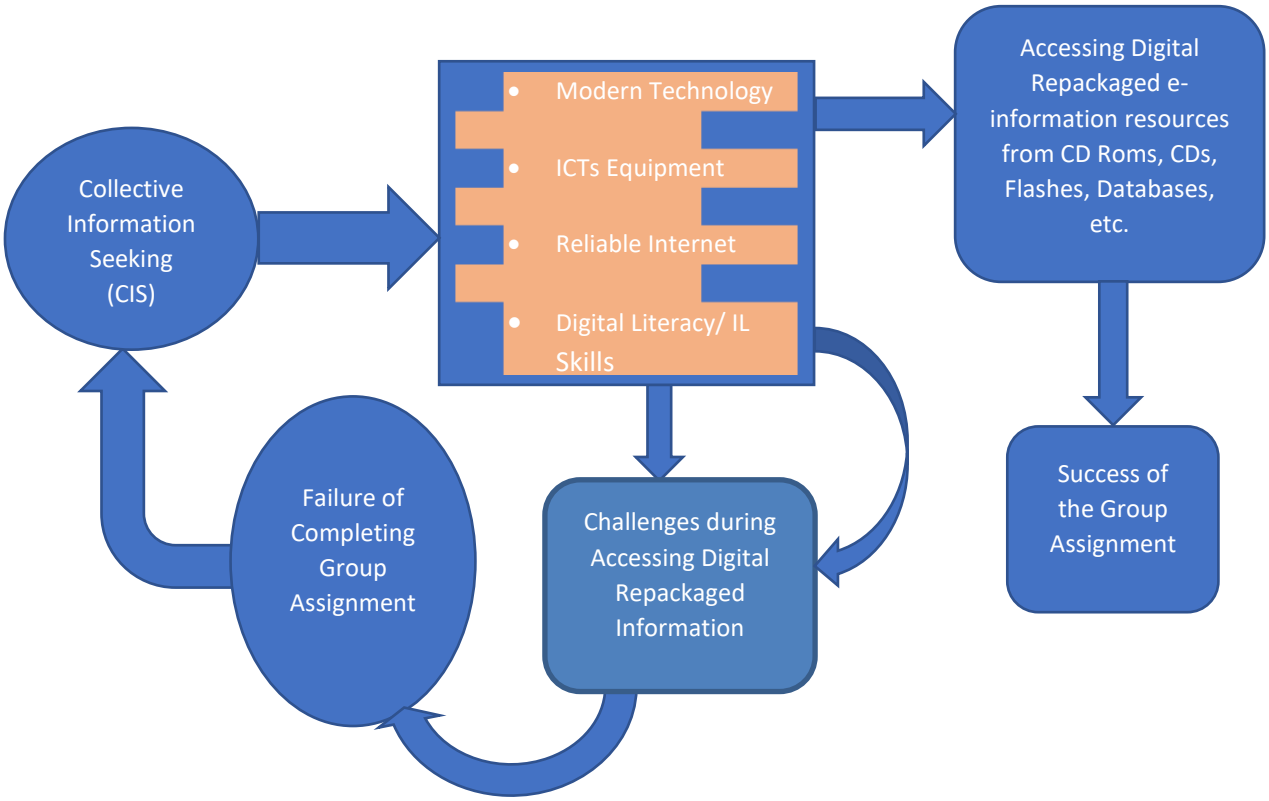
1) This study recommends RHLI possess modern technology, ICT equipment and reliable internet for student groups in RHLI to access the digital repackaged information to accomplish the group tasks. Moreover, the repackaging of digital information facilitates interactivity among users, the knowledge base, and technology when information seekers seek information (Dogara, Yashim, and Peter, 2022).
2) Interview and FGD respondents in RHLI recommended that student groups be equipped with digital information literacy (DIL) skills to access the required digital repackaged information in RHLI libraries.
3) Hypothesized model that improves the access of digital repackaged information is vital to student groups in RHLI to access digital repackaged information in rural RHLI libraries. The RHLI students, through FGD, recommended that RHLI student groups have a guideline or model that covers all vital technology aspects to assist RHLI student groups in accessing digital repackaged information from electronic information sources available in RHLI libraries.

The writers call for the identification of good model for accessing the repackaged digital information that requires vital aspects of digital information for combining information from different sources that consists all qualities of digital repackaged information, for example, the accuracy of digital repackaged information, completeness and consistency of the digital repackaged information that are delivered to users (Dogara, Yashim and Peter, 2022).

The reviewed literature lacks a model that highlights the digital repacked information that is the source of imparting knowledge to information seekers during CIS. For many years, we still lack a clear framework for studying information and knowledge as a resource (Hansen & Widen, 2017). Moreover, there is a strong link between digital repackaged information and other aspects of modern technology, ICT equipment, reliable internet and digital information literacy (DIL) to student groups of RHLI to meet their collective information requirements when accomplishing their group assignments during the CIS process. The writers call for the identification of effective models for repackaging digital information, which requires critical thinking to combine information from different sources and to consider the accuracy, completeness, and consistency of the information (Dogara, Yashim, and Peter, 2022).

The following Figure 1.2 illustrates the hypothesized model for accessing digital repackaged information to student groups in RHLI.

Figure 1.2: Hypothesized Model for Accessing Digital Repackaged Information in RHLI



Source: Field Data (2023)

Figure 1.2 shows that student groups in RHLI required modern technology, ICT equipment, reliable internet access, and digital information literacy to accomplish practical group assignments. Student groups at RHLI faced the challenge of the absence of modern technology, ICT equipment, reliable internet, and digital literacy skills when accessing repackaged digital information during CIS; they were forced to restart the CIS process.

Moreover, this study contributes to the evolving discourse on the access of collective digital repackaged information by presenting a comprehensive model for adaptive digital repackaged information services grounded in users-centered design and pedagogical collaboration.

4) The student groups of RHLI are required to access complete digital information with all qualities of information, i.e. complete, accurate, current and reliable.
5) The accessed information is required to cover the local context of information seekers. Information about the geographical context of information seekers helps them easily understand digital information to meet their information needs.
6) The digital repackaged information needs to consider different levels of education of information seekers during CIS for easy understanding.
7) The repackaged information is also required to be in the language the information seekers understand better for easy understanding during CIS.

8) The digital gray literature is required to be available in RHLI to assist in the availability of digital repackaged information in the area of gray literature.
9) The skilled manpower for digital repackaging information required to be employed in RHLI to assist accessibility of digital information to student groups.
10) The digital repackaged information required to be in summary form for information seekers to understand, and also the summarized digital repackaged information occupy the small space in CD rom and flash disks.

5.5 Recommendation for Future Research

The scholars in the modern era of science and technology of the 21st century require to research on copyright issues in accessing digital repackaged information. It is equally recognized by all respondents is the challenge posed by copyright and intellectual property rights suggests that the library must navigate a complex legal landscape in its handling of digital content (Omosekejimi & Eda, 2024).

6. Conclusion

The accessibility of digital repackaged information to student groups in RHLI is crucial to meet the information requirements of information seekers during CIS. The accessibility of digital information, with all its qualities, depends on an information scientist's knowledge of how to repurpose it. In the present information age, the accessibility of digital repackaged information is vital in libraries to meet patrons' information requirements. In the digital era, the ability of student groups in rural settings to manage digital repackaged information beyond mere access is essential for developing independent and critical thinkers to meet their information needs.

Moreover, it is the right time for RHLI libraries and information centers to start canvassing for the information seekers and strategically tailor their collective information packages to meet the peculiar collective information needs of student groups.

Conflict of Interest Statement

The author declares no conflict of interest.

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