

Accessibility and Utilization of Grey Literature in Academic Libraries in Dar es Salaam Region, Tanzania: A Case of University of Dar es Salaam Library

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Abstract

This study assesses the accessibility and utilization of grey literature in Academic Libraries, using the University of Dar es Salaam Library as a case study. The study employed a descriptive research design and a mixed-methods approach. It involved a sample of 100 library users particularly postgraduate students, director of the library and the Head of the East Africana section. These respondents were selected using convenience sampling as well as purposive sampling techniques respectively. The collected quantitative data were analyzed using SPSS while qualitative data were analyzed using content analysis. The findings revealed that theses, dissertations, consultancy and research reports, conference proceedings, and project reports are the most common types of grey literature available. While users are made aware of these resources through awareness services, workshops, and training, challenges such as difficulties in searching, network issues, outdated materials, restricted formats, and limited ICT infrastructure hinder effective use. Despite high awareness and accessibility, issues like poor librarian support and insufficient digital infrastructure were identified. The study recommends improving user education, digitizing resources, enhancing search tools, updating collections, and fostering collaboration with academic departments to improve access and utilization of grey literature.

Keywords: *Grey literature, Library, Academic library, Accessibility, Utilization and ICT.*

Introduction

Grey literature refers to various documents produced in print and electronic formats by institutions such as academic organizations, businesses, and government agencies (Schopf, 2018). These include research papers, theses, dissertations, seminar and workshop proceedings, technical reports, and government documents. Gelfand & Lin, (2013) indicates that commercial publishers do not control these materials, and their dissemination can be unrestricted. Libraries, particularly academic libraries, play a key role in curating, organizing, and providing access to grey literature,

which is considered a primary information source across various scientific fields (Fatokun & Amusa, 2014).

The importance of grey literature has been increasingly recognized in academia due to its relevance and value in research (Okoroma, 2012). Academic libraries utilize partnerships with research institutions, government agencies, and international organizations to collect and preserve grey literature. Conversely, libraries adopt cataloging, indexing, and metadata standards to improve accessibility (Okoroma, 2012). With the advancement of technology, the digitization of grey literature collections was made possible and further expanded global access to these resources (Msuya, 2020).

In Africa, most research remains unpublished in international journals, and a large amount exists in the form of grey literature (Frantzen, 2010). In Tanzania, the East Africana section at University of Dar es Salaam Library serves as a central repository for grey literature, and houses both print and electronic materials (Makulilo, 2014). However, challenges such as limited indexing, lack of standardized citation practices, and resource constraints continue to hinder the accessibility and management of grey literature in academic libraries (Lawrence, 2021). These factors make it difficult for researchers to locate and use grey literature effectively.

Various studies on grey literature in Tanzania academic libraries have highlighted the need for improved management and dissemination of these resources. Kiondo and Joseph (2019) emphasized the role of academic libraries in collecting and preserving grey literature but noted that these efforts are often hampered by resource constraints and a lack of standardized practices. Evidence reveals a paradigm shift in the library industry from traditional library services to hybrid or purely digital library services. These changes have not only affected how library materials are acquired and organized but also how users access library services. With the advent of Online Public Access Catalogues (OPACs), electronic databases, and digital repositories, the landscape of information retrieval has transformed significantly. This shift has enhanced the accessibility and discoverability of various library resources, including grey literature, which traditionally posed unique challenges to both librarians and users due to its non-commercial nature, lack of standardized cataloging, and limited distribution channels (Schöpfel, 2015).

For many years, users of grey literature in libraries have been affected by difficulties in accessing these materials due to challenges that were somewhat unique compared to other library resources. Studies (Auger, 1998; Lawrence 2021, Giles, 1999) show that difficulties in locating unpublished

or semi-published materials, and inconsistency in the quality and format of grey literature remained a great challenge to most libraries. Furthermore, the scattered nature of grey literature often made it difficult for users to find relevant materials efficiently. The major concern, however, is the extent to which these challenges have been addressed by the advent of technologies in libraries. The integration of digital tools and platforms has played a crucial role in improving access to grey literature. Digital repositories, institutional archives, and specialized databases have emerged as vital tools in organizing and disseminating grey literature, making it more accessible to users (Pinfield, 2020).

Objectives of the Study

The general objective of this study is to explore the current status of access to and use of grey literature in academic libraries, with a focus on how technological advancements have mitigated previous challenges and the extent to which users utilize these resources effectively. Specifically, the study sought to achieve the following specific objectives:

1. To determine the types of grey literature available at the University of Dar es Salaam library.
2. To examine the extent to which grey literature is accessed at the University of Dar es Salaam library.
3. To examine the extent to which grey literature is used at the University of Dar es Salaam library.
4. To find out challenges faced in accessing and utilizing grey literature at the University of Dar es Salaam library.

Review of Literature

Types of Grey Literature

Grey literature encompasses a wide array of materials, including reports (technical, statistical, market research), theses, conference proceedings, government documents, pre-prints, and working papers that are not commercially published but provide valuable insights across various fields. According to Bickley, Kousha, and Thelwall (2021), this category also includes project work from staff and students, consultation reports, and publications from seminars and workshops. Upev et

al. (2018) and Osayande & Upebor (2012) highlight that grey literature often consists of non-peer-reviewed materials such as policy papers, research reports, and course materials. Bouderbane et al. (2019) further classify grey literature into technical reports, government documents, and pre-prints, emphasizing their role in providing timely, in-depth information. This literature is essential for gaining access to recent advancements, promoting scholarly debate, and supporting evidence-based decision-making in academia, industry, and policy.

Accessibility of Grey Literature

Academic libraries are key producers and consumers of grey literature, including research reports, theses, working papers, and conference presentations (Farace & Frantzen, 2005). While grey literature is often difficult to access through traditional library resources, libraries support open-access initiatives like Open Grey and integrate it into catalogs using enhanced search algorithms and metadata (Garousi et al., 2016; Paez, 2017). Libraries also rely on interlibrary loans and document delivery services to provide access (Taylor & Collister, 2019). Institutional repositories and research guides further facilitate access and awareness of grey literature (Bhatt et al., 2021). Open-access policies play a vital role in increasing accessibility, although proprietary restrictions may still limit availability (Schopfel & Rasuli, 2018; Farace & Frantzen, 2005).

Use of Grey Literature

Grey literature is increasingly used in academic research for its timely and unique insights, particularly in rapidly changing fields like technology, medicine, and social sciences (Wilkinson, 2016). It includes resources such as government reports, conference proceedings, and industry documents that are not always peer-reviewed. While it enriches research by providing a broader perspective, grey literature requires careful evaluation of credibility, methodology, and data reliability (Gelfand & Lin, 2013). Academic libraries support researchers by offering guidance on searching and assessing grey literature (Upev et al., 2018). Usage is growing, particularly in government and academic libraries, but access remains limited in some cases (Bouderbane et al., 2019). Libraries promote its value through research instruction and ensure its proper organization, open access, and use to support comprehensive research (Schopfel & Rasuli, 2018; Mering, 2018).

Challenges in accessing and utilizing grey literature in academic libraries

Grey literature plays a critical role in academic research, but accessing and managing it presents significant challenges for academic libraries. According to Osayande & Ukpebor (2012), finding, identifying, and acquiring grey literature requires considerable staff effort, subject expertise, and time. The issue is compounded by the fact that a vast amount of grey literature is produced by numerous organizations, yet academic libraries often focus on only a small subset of relevant sources. Upev et al. (2018) noted that grey literature, including reports, theses, and conference papers, is essential for research but challenging to collect due to its non-standardized formats, lack of bibliographic control, and inconsistent production processes. Additionally, inadequate funding for grey literature acquisition and maintenance has been identified as a major obstacle by Gelfand and Lin (2013), alongside the deterioration and loss of materials due to poor handling and storage conditions.

Accessibility to grey literature is further hindered by issues such as incomplete identification, restricted distribution, and limited documentation within institutional repositories (Schopfel & Rasuli, 2018). Bouderbane et al. (2019) pointed out that many libraries struggle to locate specific documents when users request them due to the absence of comprehensive indexing systems. Furthermore, many academic and research libraries in Africa face difficulties in managing digital grey literature, lacking the necessary infrastructure and policies for its storage and dissemination. Upev et al. (2018) highlighted that acquisition librarians face greater challenges with grey literature than traditional materials, as it is not covered by conventional book trade channels and often requires specialized databases or direct contact with organizations to obtain.

Managing grey literature also presents various operational challenges. These limited physical space, inadequate staffing, and insufficient resources for acquiring and maintaining grey literature collections (Okoroma, 2012). (Bouderbane et al., 2019) underscored the difficulties in accessing and citing grey literature due to its fragmented availability across multiple platforms and lack of peer reviewing, which may affect the credibility and quality of research. Despite these challenges, grey literature provides valuable and diverse insights that enrich academic research. Libraries must continue to enhance their systems and collaborate with researchers and publishers to improve the organization, accessibility, and utilization of grey literature (Bouderbane et al., 2019).

Methodology

This study employed a descriptive research design using both qualitative and quantitative approaches. The study was conducted at the main campus of University of Dar es Salaam (UDSM). The study area was purposefully selected due to its extensive collection and relevance to the subject matter of this study.

Sampling techniques for this study included both purposive and convenience sampling. Purposive sampling was used to select two key informants namely the Director of the library and the Head of the East Africana section. Convenience sampling was employed to select 98 postgraduate students from UDSM, chosen due to their availability and relevance to the study. According to the UDSM (2023) the total population of postgraduate students at UDSM is 5,902, and the sample size of 98 was considered adequate, following guidelines for precision and confidence levels as recommended by Singh and Masuku (2014).

To obtain adequate and reliable information, data collection techniques included interviews and questionnaires. The collected quantitative data were analyzed using SPSS (Version 25) while qualitative data were analyzed using content analysis.

Findings of the Study

Types of Grey Literature Available

Respondents were asked if they were aware of different grey literature resources in the library. The findings showed that 78(92.5%) agreed that they are aware of grey literature and only 2(2.5%) were not aware of grey literature. Furthermore, the respondents who agreed that they were aware of grey literature were required to show what kind of grey literature resources were available in the library. The findings revealed that the most commonly available grey literature were theses and dissertations (52.5%), research papers (22.5%), consultancy reports (10%), and seminar/workshop reports (7.5%). Conference proceedings (2.5%) and manuscripts (2.5%). They also identified other grey literature as technical reports, annual reports, evaluation reports, posters, abstracts, capstone projects, white papers, policy documents, legislative documents, draft reports, discussion papers, preprints, newsletters, and bulletins from research groups. During the interview, one respondent made this comment:

“Unpublished manuscripts comprise scholarly papers and studies that are available for reference, newsletters, and bulletins but have not been formally published. Other examples include graduate student theses and dissertations, conference papers and proceedings delivered at academic conferences, and technical reports generated by government offices or research institutions”. (Respondent No 1)

The findings reveal that the availability of gray literature including theses and dissertations can be attributed to their comprehensive nature and relevance to current academic topics, as noted by Upev, Terna, and Beetseh (2018). Their detailed analyses, originality, and up-to-date information make them a valuable resource for researchers and students. Bouderbane et al. (2019) suggest that grey literature such as theses, dissertations, and conference papers offer unique perspectives that are often not found in traditional and peer-reviewed publications. The lower availability of other forms of grey literature, such as consultancy reports, and seminar/workshop reports, may be due to limited awareness or perceived relevance to certain academic fields.

Access Point to Grey Literature

The respondents were asked to show where they find grey literature that they normally consult in their academic matters. 14(18.4%) showed that they accessed through Institutional Repositories; 35(46.0%) accessed through the special collection, 16(21.1%) accessed grey literature from Specialized Grey Literature Databases; and only 11(14.5%) indicated that they find grey literature from library catalogues. For further details, see Table 1.

Table 1: *Access Point of Grey Literature*

Response	Frequency	Percent
From special collection	35	46.0
Specialized Grey Literature databases	16	21.1
Library Catalogs	11	14.5
Institutional Repositories	14	18.4
Total	76	100.0

Source: *Field Data, 2024*

From the findings, it is evident that specialized and institutional resources (special collections and grey literature databases) are the most commonly used access points for grey literature. This reflects a preference for repositories and platforms that are specifically designed to manage non-commercial and unpublished materials. While library catalogs and institutional repositories also play a role, they are secondary to more targeted resources in terms of grey literature access. This finding concurs with the study done by Fatokun and Amusa, (2014) on the acquisition and management of grey literature, they opined that grey literature is accessed through various points, depending on its nature and availability. They indicated that some universities, research institutions, and organizations maintain institutional repositories where they archive and provide access to grey literature produced by their faculty, researchers, or staff.

Facilitation of Library towards access to grey literature

Regarding how the library facilitates access to grey literature resources, the respondents showed that 20(26.3%) mentioned classifying and indexing information resources, whereas 25(32.9%) respondents pointed out the library providing current awareness services and 31(40.8%) indicated that the library provides reference assistance to library users. Table 2 below summarizes the results.

Table 2: *Facilitation of Library towards access to grey literature*

Response	Frequency	Percent
By classifying and indexing information resources	20	26.3
By providing current awareness service	25	32.9
Providing reference assistance to library users	31	40.8
Total	76	100.0

Source: *Field Data, 2024*

The findings reveal libraries' crucial role in providing access to grey literature through various methods. Notably, 40.8% of respondents identified reference assistance as the key method, highlighting the importance of human interaction and the expertise of librarians in navigating these often non-standardized and obscure resources. This aligns with Gelfand and Lin (2013), who stress the role of skilled librarians in helping users locate grey literature in diverse formats, such as theses, reports, and conference proceedings. 32.9% noted the role of current awareness services (CAS),

aligning with Farace & Frantzen (2010) in stressing the need for libraries to maintain and expand CAS to keep users informed of new materials. 26.3% cited classification and indexing services as key to access, reflecting the importance of cataloging and creating metadata to ensure grey literature is easily discoverable. Libraries must therefore enhance reference services, improve cataloging practices, and leverage digital platforms to better support user access to grey literature. The interviewed respondents disclosed the ways libraries use to make library users aware of the available grey literature found in the library. One interviewee had this to say:

“UDSM library employs several strategies to increase awareness of the available grey literature in its collections and encourage users to access these resources. Here we do workshops or training sessions that educate users about the types of grey literature available and how to find and use them effectively. The library provides online guides and tutorials on grey literature.” (Respondent No 2)

Another respondent had this to comment:

“Reference Services where Librarians proactively suggest grey literature resources to users during reference consultations and research support to help users find relevant grey literature. Moreover, we use library exhibits and displays that help to showcase grey literature resources, highlighting their relevance and importance they include brochures, flyers, posters, and CAS.” (Respondent No 1)

These findings imply that libraries facilitate access to grey literature resources for library users; however, libraries need a multi-faceted approach that integrates both personalized librarian assistance and modern digital tools to improve the visibility, accessibility, and utilization of grey literature among their users.

Use of Grey Literature

On the question of using grey literature resources in the library, 74(97.4%) agreed that they use grey literature and 2(2.6%) said that they have not used grey literature resources in the library. Furthermore, 24(33.3%) occasionally used grey literature, and 31(41.1%) respondents used grey literature frequently. Moreover, 15(20.5%) indicated that they regularly used grey literature and only 4(5.1%) rarely used grey literature. For further details, see Table 3.

Table 3: *The Frequency of using Grey Literature*

Response	Frequency	Percent
Frequently	31	41.1
Regularly	15	20.5
Occasionally	24	33.3
Rarely	4	5.1
Total	74	100

Source: *Field Data, 2024*

The findings imply that several factors contribute to variations in the rate of use of grey literature in academic matters. The availability of grey literature varies among library users since they may have better access to repositories or databases containing grey literature, while others may have limited access (Paez, 2017).

However, the findings shows that use of grey literature in their academic activities like researching, writing scholarly papers, academic conferences, and academic publishing. The variation of grey literature can be caused by different information needs of library users based on what particular issues need to be accomplished by accessing library grey literature. For example, Manson, (2012) noted that the guidance provided by professors or supervisors can influence students' research practices. If a supervisor encourages or emphasizes the importance of consulting grey literature, students are more likely to do so. He added that some students may not be aware of the existence or significance of grey literature in their field of study. Lack of awareness or familiarity with these resources may result in lower rates of use.

Library User's Level of ICT Use in the Utilization of Grey Literature Resources

Library users were asked to indicate their level of ICT use in the utilization of grey literature resources. The finding showed that 24(32.4%) agreed that their level of ICT use in the utilization of grey literature resources was adequate, 48(64.9%) indicated that their level of ICT use in the utilization of grey literature resources was satisfactory, and only 2(2.7%) agreed that the level of ICT use in the utilization of grey literature resources was inadequate.

Furthermore, respondents were asked if with the aid of ICT facilities available in the library (OPAC (Online Public Access Catalog, Specialized Search Engines, Mobile Applications and Internet Access and Engines) they easily use grey literature from the library collection. The findings showed that 42(56.8%) agreed that with the aid of ICT, they find it easy to use grey literature from the library while 32(43.2%) respondents indicated they find it difficult to use grey literature from the library. Details are indicated in Table 4.

Table 4: *Aid of ICT Use in Utilization of Grey Literature*

Response	Frequency	Percent
Find easily to access grey literature	42	56.8
Find it difficult to access grey literature	32	43.2
Total	74	100.0

Source: *Field Data, 2024*

The respondents who indicated that library users face different difficulties in using grey literature from the library using ICT facilities were asked to mention the reasons for that. The mentioned reasons include poor internet connection, low level of ICT skills, inadequate training to users, low awareness, low motivation and inspiration on the use of grey literature, difficult in searching, and poor assistance from the librarians.

Challenges faced during access and use of grey literature

The respondents were asked if they faced any challenges when accessing grey literature resources. The findings showed that 78(100%) agreed that during the access and use of grey literature in the library they faced challenges; 18(22.5%) had difficulty and insufficient skills on how to search, locate, and access the challenges they faced; and 8(10.0%) agreed that network issues during access were among the challenges they faced. Moreover, 40(52.5%) reported format and current issues as challenges faced; 6(7.5%) indicated inadequate awareness of the available grey literature; and only 4(5.0%) agreed that poor assistance from the librarians were challenges they encountered during access and use of grey literature. Further details are indicated in Table 5.

Table 5: *Challenges faced during access and use of grey literature*

Response	Frequency	Percent
Difficult and insufficient skills in how to search, locate, and access	18	22.5
Network issues during access	8	10.0
Format issues and current issues,	40	52.5.
Inadequate awareness of the available grey literature	6	7.5
Poor assistance from a librarian	4	5.0
Total	78	100.0

Source: *Field Data, 2024*

The interview findings on the problems they faced in accessing grey literature during service provision were as follows. One respondent commented as follows:

“Accessing grey literature in this library faces several challenges for both library staff and users are limited availability and inconsistent quality control since some grey literature typically does not undergo peer review making it challenging to assess the quality and reliability of the information. Accessibility and Usability challenges as library users sometimes find it difficult to access grey literature due to its scattered and fragmented nature across different sources and the content may be in formats that are not user-friendly, ICT User Education challenge as ICT provides more ways to access grey literature, (Respondent No 2)

The indicated challenges in accessing grey literature imply that accessing and using grey literature often require specialized skills and knowledge. These include familiarity with specific databases or an understanding of how to evaluate the quality of non-peer-reviewed content. This is the reason librarians and information professionals often work to mitigate these challenges by developing specialized collections, providing training, and creating guides or tools to help users locate and effectively use grey literature.

Discussion of the Findings

The findings show that the most commonly accessed grey literature at the University of Dar es Salaam includes theses and dissertations, research papers, and consultancy reports. The

prominence of theses and dissertations is consistent with existing literature that underscores their value in academic research due to their detailed and original content. Upev, Terna, and Beetseh (2018) emphasize the importance of these resources for their comprehensive treatment of specific topics, which makes them invaluable for researchers seeking in-depth analysis and current information. On the other hand, the lower usage rates of other types of grey literature, such as conference proceedings and manuscripts may indicate a gap in awareness or perceived utility. The varied utilization patterns suggest that while some types of grey literature are well-integrated into academic practices, others may require more visibility or targeted promotion. Libraries might consider initiatives such as awareness campaigns or specialized workshops to highlight the value of underutilized grey literature types.

Moreover, the preference for accessing grey literature through special collections and specialized grey literature databases reflects the strategic roles these resources play in providing access to valuable information. Special collections often house unique or rare materials that are not available elsewhere, while specialized databases offer a curated selection of grey literature that can be highly relevant to specific research needs. Additionally, institutional repositories and library catalogs are also important access points but seem to be less utilized. This discrepancy might be due to varying levels of user familiarity with these tools or their perceived ease of use. Fatokun and Amusa (2014) discuss how institutional repositories can serve as crucial access points for grey literature, emphasizing the need for ongoing efforts to promote and enhance these repositories' visibility and functionality.

Moreover, the library's efforts to facilitate access to grey literature through reference assistance, current awareness services, and classification/indexing are crucial. Reference assistance is particularly significant as it provides personalized support to users, helping them navigate the complexities of grey literature. This aligns with Gelfand & Lin's (2013) findings on the importance of librarian expertise in guiding users to relevant resources. Current awareness services also play a vital role in keeping users informed about new grey literature resources, as highlighted by Farace & Frantzen (2010). These services can help bridge the gap between the availability of grey literature and its utilization by ensuring that users are aware of newly acquired or relevant materials. The role of classification and indexing is also critical, as proper organization and

metadata creation enhance the discoverability of grey literature. This underscores the importance of robust cataloguing practices in making grey literature accessible to users.

The high rate of use of grey literature among respondents also reflects its integral role in academic research. Variations in how often grey literature is accessed indicate that its frequency of consultation varies although it is commonly used. This variation might be influenced by factors such as the type of academic work, the specific research needs of users, and their access to relevant resources. The frequent use of grey literature supports its value in academic research, as noted by Paez (2017). However, the variation in usage rates indicates that some users might have better access to or familiarity with grey literature than others, highlighting the need for libraries to address these disparities through targeted interventions and support.

The study reveals that the level of ICT use is satisfactory, but users still face difficulties in accessing grey literature. This indicates that while ICT tools are available and generally effective, there are areas that require improvement. Some reported difficulties, including poor internet connections and inadequate ICT skills, suggest that enhancing digital infrastructure and user training could significantly improve access to grey literature.

The findings reflect broader challenges in digital information management, where technology can both enable and hinder access depending on its implementation and user proficiency. Improving ICT support, providing more comprehensive user training, and addressing technical issues are crucial steps toward enhancing the accessibility of grey literature.

The identified challenges highlight the complexities involved in accessing and using grey literature. These include format issues and insufficient search skills. The format issues often arise because grey literature can come in diverse and non-standard formats that may not be easily accessible or user-friendly. This fragmentation can make it difficult for users to locate and utilize relevant materials effectively. The lack of sufficient skills in searching and locating grey literature calls for the need for better user education and training. Libraries can address this by offering workshops and creating guides that help users develop the necessary skills to navigate grey literature resources effectively. On network problems and inadequate awareness, libraries need to ensure that their digital infrastructure supports reliable access and that users are informed about available resources and how to use them effectively.

Conclusion and Recommendations

It has been established there is a high level of accessibility of grey literature among students. This is primarily due to effective information literacy, training, and the integration of research methods into the curriculum. The most common types of grey literature offered by the library are theses and dissertations. This availability notwithstanding, challenges such as outdated materials, restricted access formats, limited user-friendly digital formats, insufficient retrieval skills, and network issues still hinder effective utilization. Addressing these issues is vital for enhancing access to and use of grey literature, thereby improving research and learning outcomes.

Based on the findings, the following recommendations are proposed: The library should intensify user education programs, offering regular workshops, training sessions, and online tutorials on how to search for, access, and utilize grey literature effectively. The library should prioritize the digitization of grey literature, ensuring it is available in user-friendly formats like PDFs and expanding digital repositories for open access.

The library should invest in advanced search tools to integrate grey literature with other resources, making it easier for users to locate relevant materials. The library should conduct awareness campaigns through social media, academic events, and outreach programs to promote the importance and availability of grey literature.

The library should address ICT challenges by improving internet connectivity, providing better ICT support, and enhancing digital literacy through targeted training. The library should establish a system for regularly updating the grey literature collection to ensure relevance and implement quality control measures to maintain consistency and reliability. The library should enhance the quality of reference services by ensuring that librarians are well-trained in grey literature resources and proactive in assisting users.

The library should enrich the grey literature collection and its utilization and foster collaborations with academic departments and research institutions to enrich the grey literature collection and ensure it meets the university's academic and research needs.

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