

## Digital Curation Skills among Librarians in Government First Grade Colleges of Karnataka: A Digital Literacy Perspective

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### Abstract

In an increasingly digital world, the role of librarians has evolved from managing physical collections to digital curation, requiring new competencies in digital literacy. This study explores the digital curation skills of librarians in Government First Grade Colleges (GFGC) in Karnataka, focusing on their preferences for digitization, institutional repositories (IR), and the use of digital library software. A survey-based quantitative research design was utilized, gathering responses from 285 librarians across 430 colleges. The results reveal that while a significant i.e majority (78.59%) support digitization and IR adoption, 21.40% have not yet implemented these practices due to resource constraints and a lack of infrastructure. The study highlights that previous year question papers (71.57%) are the most commonly managed content in IRs, whereas e-theses (7.71%) and rare book digitization (10.52%) remain limited. Furthermore, the adoption of digital library software like DSpace is low (8.48%), with most respondents (83.92%) not using any dedicated software for digital archiving. Findings also show that 79.65% of libraries maintain a webpage, but maintenance is primarily handled by library staff (55.50%) rather than dedicated IT personnel. The study underscores the need for capacity building, software adoption, and enhanced digital infrastructure to optimize digital content management. It suggests increased collaboration between library and IT departments, along with targeted training to improve librarians' digital curation capabilities. Addressing these challenges can enable libraries to strengthen their digital presence, preserve valuable academic resources, and remain pivotal in the evolving digital knowledge landscape.

**Keywords:** Digital curation, Digital literacy, Institutional repositories (IR), Digital preservation, Digital library software, Digitization, Library websites, Content management.

### 1. Introduction

In an increasingly digital world, the role of librarians has evolved significantly, expanding beyond the traditional responsibilities of cataloguing and managing physical collections to include digital curation. Digital curation refers to the maintenance, preservation, and management of digital assets to ensure their long-term accessibility, usability, and authenticity. With the rapid growth of digital information and the increased reliance on online resources in academia, the demand for digital curation has become more pressing than ever. Libraries, as knowledge hubs, are now tasked with not only acquiring and organizing digital content but also ensuring that it remains available and reliable for future use. As a result, librarians must develop strong digital literacy skills to effectively manage these responsibilities. For librarians, possessing digital curation skills means being able to assess digital resources, organize information systematically, utilize digital repositories, and employ strategies for data protection and long-term archiving. This transformation has required librarians to continuously upgrade their skills to keep up with technological advancements and changing user expectations.

In Karnataka, GFGC libraries are integral to the academic ecosystem, serving diverse user groups with varied informational needs. While several libraries have embraced digital platforms like institutional repositories (IR) and websites, the extent of their effectiveness depends largely on the technical competencies of the librarians. Despite advancements, challenges such as limited resources, lack of specialized software, and skill gaps persist, hindering the optimal utilization of digital resources. This study examines the digital curation skills of librarians in GFGC libraries, assessing the current state of digital infrastructure, resource management practices, and the

availability of advanced tools. By identifying key challenges and opportunities, the study aims to provide insights to enhance digital curation practices in academic libraries.

## **2. Need for the Study**

The need for digital literacy skills in digital curation has become particularly important in academic institutions, where the preservation of scholarly content is vital. As universities and research institutions increasingly move towards open access and digital repositories, librarians play a crucial role in managing digital archives and ensuring the accessibility of research outputs. This includes digitizing physical resources, managing institutional repositories, and implementing data management plans that align with international standards. Additionally, the role of librarians has expanded to include educating faculty, researchers, and students on digital literacy, helping them navigate the complexities of digital resources and ensuring they can effectively engage with scholarly content. Therefore, the present study examines the digital literacy skills of librarians in academic libraries, focusing on digital curation. It assesses current digital content management strategies, and institutional repositories (IR), identifies sources considered for the IR, and highlights challenges.

## **3. Review of Literature**

The digital curation plays a vital role in higher education. To be involved in the digital curation process is essential for university librarians and professors to efficiently manage educational resources amidst an ever-increasing digital landscape. It aims to enhance the integration of digital resources into teaching, thereby promoting critical thinking and reflective practice among educators and students (Deschaine & Sharma, 2015). Digital preservation skills among library staff are very important in providing services according to the needs of library users. Librarians need further training in digital preservation strategies, such as metadata handling and migration techniques. They need ongoing skill development to ensure long-term access to electronic resources in the face of technological changes (Kavishe & Dulle, 2016). It leads to the significance of Institutional Repositories (IRs) in academic libraries, focusing on digital preservation and scholarly communication. The role of IRs in maintaining academic output, such as e-theses and dissertations, and ensuring their long-term accessibility. It also discusses the challenges in implementing IRs, such as policy formulation, infrastructure requirements, and faculty engagement. It helps to enhance the visibility of an institution's research output. (Saini, 2018.) LIS professionals need to acquire skills in emerging areas to provide effective and efficient services to users (Cope & Baker, 2018). The digital preservation of electronic information in libraries and librarians is a big challenge and Strategies for overcoming those challenges are also needed for the digital curation of documents. Government and university management should support digital preservation efforts, as libraries cannot achieve sustainable efforts alone (Friday & Mrs, 2022). The educational needs of students in the realm of data management focus on developing competencies to handle data effectively in various scientific disciplines. Training the students in data preservation, management, and ethical handling, highlighting a gap in current educational curricula is very important and suggests equipping students with necessary skills by providing training (Carlson et al., 2013). Therefore, LIS professionals must acquire digital literacy skills for digital curation.

## **4. Objectives**

- a) To understand the digital content management strategies of GFGC libraries
- b) To identify the type of content/sources managed in institutional repositories (IR)
- c) To find out the Usage of Software for the Institutional Repository/Digitization
- d) To recognize the status and management of the library website/webpage of Government First grade colleges and the content made available on the library website.

## **5. Methodology and scope**

The study employed a survey-based research design to investigate the digital curation skills among librarians. A quantitative approach was chosen to collect measurable data from a large sample. The target population for this study consisted of librarians working in Government First Grade Colleges across Karnataka State. A structured questionnaire was designed as the primary data collection instrument. The questionnaire included both closed-ended and open-ended questions to gather detailed information. The questionnaire was distributed among the librarians through both online and offline modes to maximize response rates. A combination of emails and physical forms was used to reach participants across different colleges in Karnataka. A total of 285 responses were collected, out of 430 colleges. Excel and SPSS were used to analyze the collected data.

## 6. Data Analysis and Interpretation

**Table 1: Demographic Profile of Respondents**

SN	Demographic criteria	Responses	Frequency	Total
a	Gender	Male	197(68.42%)	285 (100%)
		Female	88(30.87%)	
b	Age Group	25-30	20(7.01%)	285 (100%)
		31-40	48(16.84%)	
		41-50	171(60.0%)	
		Above 50	46(16.14%)	
c	Designation	Senior Scale Librarian	134(47.01%)	285 (100%)
		Selection Grade Librarian	124(43.50%)	
		Guest Librarians	27(9.47%)	
d	Professional experience (in years)	1-5	30(10.52%)	285 (100%)
		6-10	08(2.80%)	
		11-15	133(46.66%)	
		16-20	55(19.29%)	
		Above 20	59(20.70%)	

Table 1 reveals that the demographic profile of the respondents provides insights into the gender, age, designation, and professional experience of those involved in the study. The majority of 197(68.42%) respondents are male while females represent a smaller proportion 88(30.88%). The largest group of respondents is in the 41 -50 age range 171(60%), followed by those 31-40 years old 48(16.84%) and those above 50 years old 46(16.14%). The smallest group is the 25-30 age group 20(7.01%). This suggests that the profession is dominated by individuals with significant experience, as the majority are in their 40s, likely reflecting seniority in the field. Respondents' designations indicate a predominance of senior positions. 134(47.01%) respondents were in the position of Senior Scale Librarian, closely followed by those in the Selection Grade Librarian category 124(43.50%). A small percentage 27(9.47%) are Guest Librarians among the respondents. Most respondents have substantial professional experience, with 133(46.66%) having worked in the field for 11 -15 years. A significant portion 59(20.70%) also has above 20 years of experience, while 55(19.29%) have 16 -20 years of experience. Only 30(10.52%) have between 1-5 years of experience, and just 08(2.80%) have between 6-10 years of experience, further reinforcing that the respondents are generally highly experienced professionals. Overall, the demographic profile indicates that the respondents are predominantly male, middle-aged professionals with significant experience in the field of librarianship, holding senior roles in the library hierarchy. The data also suggests a skew towards more experienced individuals, reflecting the importance of guest librarians in managing library operations and services.

**Table 2: Digital Content Management in GFGC Libraries**

SN	Criteria	Responses	
	Availability of IR initiative at GFGC Libraries	Yes	224(78.59%)
		No	61(21.40%)
	Software used for developing IR	Greenstone	10(4.46%)
		e-prints	07(3.12%)
		D space	19(8.48%)
		None of the above	188(83.92%)
	Availability of Library Website/webpage	Yes	227(79.6%)
		No	58(20.4%)
	Library website/webpage and IR initiative managed by:	System Analyst	10(4.40%)
		Library Staff	126(55.50%)
		Administration Section	6(2.64%)

	IT Coordinator	85(37.44%)
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The data in Table 2 reveals that the majority of librarians 224(78.59%) are in favor of digitization and the use of institutional repositories (IR). This indicates that librarians have a strong preference for digitizing resources and implementing IRs, reflecting an understanding of the benefits of digital archiving, easy access to academic content, and long-term preservation of institutional knowledge. On the other hand, 61(21.40%) of respondent s indicated that they have not yet adopted digitization and the use of IRs, which may be due to limited resources, lack of infrastructure, or challenges related to copyright and digital preservation. Further, the table reveals the limited usage of IR software used for data preservation. Only 10(4.46%) use Greenstone, 7(3.12%) use e-prints, and 19(8.48%) use DSpace, suggesting that these popular open-source platforms have not yet reached widespread adoption in the surveyed institutions. However, a striking 188(83.92%) of respondents indicated they do not use any of these software solutions, which could point to a lack of infrastructure, resources, or awareness of these tools. This high percentage may also reflect reliance on alternative systems, proprietary software, or manual processes for managing digitization and institutional repositories. Overall, the findings suggest that while digital library software is available and acknowledged, there remains a significant platform for increased adoption or better integration of these systems into library practices.

**Further, the table provides** insights into the availability and maintenance of library websites. A significant majority of respondents 227 out of 285(**79.65%**) confirm that their institutions have a dedicated library webpage/website. This indicates a strong commitment to providing online access to library resources, services, and information. On the other hand, 58(**20.35%**) reported that their institutions do not have a library webpage or website, which suggests a gap in the digital presence of these libraries, potentially limiting access to information and services for users. When it comes to who is responsible for maintaining the library website, the largest group is **library staff**, with 126(55.50%) reporting that they handle the maintenance of the website. This indicates that library staff are actively involved in managing the digital presence of their institutions, which is likely to involve updating content, managing resources, and ensuring the website functions properly. 85(37.44%) report that the **IT coordinator** is responsible for maintaining the library website, suggesting collaboration between library staff and IT professionals. A smaller proportion, 10(4.40%), reported that a **system analyst** manages the website, indicating that specialized technical staff may be involved in some cases. Finally, 6(2.64%) indicated that the **administration section** manages the website, which may reflect a more centralized approach to website maintenance in certain institutions.

Overall, the data suggests that most libraries have a webpage or website, with library staff playing a central role in its upkeep, although the level of involvement of other departments, like IT or administration, varies.

**Table 3: Type of Sources Managed in Institutional Repositories (IR)**

SN	Sources	Responses
	Previous year's question papers	204(71.57%)
	Reports	41(14.38%)
	Conference Proceedings	37(12.98%)
	Faculty publications	54(18.94%)
	E-thesis	22(7.71%)
	E-Dissertations	25(8.77%)
	Useful open-access resources	99(34.73%)
	Digitization of copyright-free materials	47(16.49%)
	Digitization of syllabus copy	87(30.52%)
	In house publications	19(6.66%)
	Digitization of rare books and manuscripts	30(10.52%)

The data presented in the table highlights the types of sources managed within institutional repositories (IRs) and their relative inclusion rates. The most commonly included source is the previous year's question papers, with 204(71.57%) of respondents indicating that these are part of the repository, reflecting their significant academic utility. In contrast, other types of content like reports 41(14.38%), conference proceedings 37(12.98%), and faculty publications 54(18.94%) are less frequently managed, possibly due to concerns over access control, copyright restrictions, or their availability through other channels. E-theses 22(7.71%) and e-dissertations

25(8.77%) are also underrepresented, which could be attributed to institutional policies or submission guidelines that direct these documents to alternative repositories. On the other hand, there is a moderate inclusion of useful open-access resources 99(34.73%) and digitization of syllabus copies 87(30.52%), suggesting a growing recognition of the importance of open-access content and teaching materials. However, digitization of copyright-free materials 47(16.49%) and digitization of rare books and manuscripts 30(10.52%) are less commonly included, possibly due to the specialized nature of these materials or institutional priorities. Finally, in-house publications 19(6.66%) are the least represented, likely because of their limited scope or relevance beyond the institution itself. Overall, the data indicates a strong emphasis on student-focused resources like question papers, with less attention given to research outputs, rare collections, and internal publications, highlighting potential areas for further development in IR content management.

**Table 4: Type of Content Made Available on the Library Website/Webpage**

SN	Type of Content	Responses	Percentage
a	Basic details about the library	200	88.10%
b	Details on library collection	173	76.21%
c	Staff details	126	55.50%
d	Links for web OPAC	116	51.10%
e	Links for No due certificate	43	18.94%
f	Links for Membership forms	43	18.94%
g	Details on ongoing library activities	95	41.85%
h	Link for digital library/IR created by library	64	28.19%
i	Link for accessing subscribed E-resources	86	37.88%
j	Link for remote access	68	29.95%
k	Links for E-newspapers	100	44.05%
l	Event reports conducted by libraries	60	26.43%
m	Link for competitive examination resources	85	37.44%
n	Links for other websites or portals or digital library	72	31.71%
o	Open access electronic material	68	29.95%
p	Links for Online catalogues	48	21.14%
q	Links for previous year's question papers	96	42.29%
r	Other useful links	77	33.92%

Table 4 highlights the strategic focus of libraries in providing a range of digital content on their websites to enhance accessibility and user engagement. The most common type of content made available includes basic information about the library 200(88.10%) and details about the library's collection 173(76.21%), indicating a priority to inform users about foundational aspects of the library's offerings. Over half of the libraries include staff details 126(55.50%) and links to their web OPAC 116(51.10%), reflecting efforts to improve transparency and ease of access to library resources. However, links for "No due certificates" and membership forms are less with 43(18.94%), suggesting that these services are either less frequently requested or possibly handled offline. Additionally, while nearly half of the libraries 100(44.05%) provide access to e-newspapers and previous year question papers 96(42.29%), fewer libraries offer digital resources like links to institutional repositories 64(28.19%) or remote access 68(29.95%). This shows a moderate focus on providing comprehensive digital academic support. The table shows that while regional libraries are integrating digital tools, there's potential for expansion in remote access and digital repositories to enhance their digital presence and user support.

## 7. Major Findings and Discussions

Based on the Analysis the major findings are listed below.

- The majority of respondents in the library profession are male (68.42%). The majority are middle-aged professionals with significant experience. Most hold senior positions, with 46.66% having 11-15 years of experience. The profession is primarily seasoned professionals, with a small percentage having 6-10 years of experience.

- A majority (78.59%) of librarians support the use of digitization and institutional repositories (IR), reflecting a strong inclination towards digital transformation in library services. However, 21.40% do not support or have yet to adopt these practices, potentially due to limited resources or other challenges.
- Digital library software adoption is limited, with only 4.46% using Greenstone, 3.12% using e-prints, and 8.48% using DSpace. A majority of respondents have a dedicated library webpage or website, with maintenance managed by library staff and IT coordinators
- The majority of IRs are managed content, with the previous year's question papers being the most frequently used. Other content types like conference proceedings, faculty publications, and e-theses are less frequently included due to concerns over access control and copyright. Open-access resources and digitized syllabus copies are moderately included, but digitization efforts are limited for rare books and in-house publications.
- Libraries primarily provide basic details and collection information on their websites, with additional content including staff details and links to web OPAC. Limited content on event reports and in-house publications suggests that institutions may need to expand their content strategies.

The findings indicate a clear trend toward digital transformation with strong support for digitization and institutional repositories. However, challenges remain in terms of software adoption, website maintenance, and the range of digital content provided. There is a significant opportunity for libraries to expand their digital presence by adopting specialized software, increasing the availability of remote access, and enhancing the variety of content on their websites to better serve their users.

#### **8. Suggestions**

The following suggestions have been made based on the study findings.

- Increased adoption of digitization and institutional repositories (IRs) is essential; libraries can seek funding and partnerships to overcome resource limitations and provide training to staff on IR benefits and management. Expanding the range of content in IRs, including more faculty publications, e-theses, and rare books, would enhance academic visibility.
- The low usage of digital library software like Greenstone and DSpace suggests a need for awareness and capacity-building initiatives to encourage adoption.
- Libraries should also enrich their websites by adding content such as event reports, competitive exam resources, and remote access links to better serve their users.
- Strengthening the collaboration between library staff and IT departments can ensure regular updates and better maintenance of digital platforms.
- Libraries should focus on a strategic digital transformation plan that includes digitizing rare collections, enhancing online resources, and integrating remote access. This approach would not only boost digital presence but also improve user engagement and resource accessibility, aligning with the evolving needs of the academic community.

#### **9. Conclusion**

The study highlights the evolving role of librarians in the digital era, emphasizing the need for robust digital literacy and curation skills. As academic institutions increasingly rely on digital platforms, librarians are key to managing digital repositories, ensuring long-term preservation, and enhancing access to scholarly content. The analysis reveals significant support for digitization among librarians, though challenges in software adoption and content diversification remain. The findings indicate a gap in the effective use of digital library software and a need for improved infrastructure and training. By addressing these gaps and leveraging institutional support, libraries can expand their digital offerings, enhance online user engagement, and strengthen their digital transformation initiatives. Focusing on inclusive hiring, continuous training, and strategic partnerships can further empower librarians to fulfill their evolving roles, ensuring that academic libraries remain dynamic centers of knowledge and information in a rapidly changing digital landscape.

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