



Muhammad Ahmad¹, Dr. Muhammad Azeem²

Abstract

The main objective of this study is to investigate, explore and analyze the digitization of manuscripts and rare materials at the Government Punjab Public Library (GPPL) in Lahore, Pakistan. For this purpose mixed methods approach were used to study the status of digitization, selection criteria and challenges in GPPL. Outcomes of the study exposed a significant gap among the targeted materials and current progress. Only a small portion of the rare materials was digitized. The selection criteria of rare materials for digitization prioritized by experts was the significance of historical records and its condition. This study further explained that the digitization of the library project faced many challenges, including budgetary constraints, lack of staff training, inadequate metadata creation and limited public access. The major recommendations of this study about digitization of the remaining materials were standardize library staff training and creation of metadata, establish online access platforms dedicated to users and promoting a culture of innovation among library staff. According to these recommendations, the Punjab Public Library can significantly increase its digitization efforts, Preservation and can ensure the online access of its valuable manuscripts and rare materials for future generations. This study also explores and examines the questions as: What is the significance of history records and its conditions? What is the status of the digitization of manuscripts/rare material? What is the selection criteria of digitization of manuscripts/rare materials? What are the challenges faced by digitalization of the library project? How to cope with these challenges?

Keywords: Digitization, Manuscripts, Rare Materials, Punjab Public Library, online Access

1. Introduction

Scholars across disciplines acknowledge the interconnection of history, culture, and civilization. As Qutab (2012) posits, history unfolds as a continuous process, while culture thrives as a dynamic social phenomenon. These elements, in turn, fuel human development, acting as a "channel" for progress. Texts, with their inherent discourses, serve as a tangible manifestation of this social reality, offering a platform for intellectual contribution (Qutab, 2012). Humanity succeeds in the transmission of knowledge gained through experience. Each generation builds upon the accumulated wisdom of the past, passing down "skills" to their descendants. Manuscripts and rare materials serve as a physical essence of this experience, meticulously recorded by hand across various historical periods. Ali (2005) emphasizes their significance as "selected fragments of time," fragments that hold the key to unlocking the past and deciphering the grand narrative of human history. When we deeply reading valued past hand written and occasional materials then we know their valued competency, opinions and their accomplishments. They offer a window into the social, cultural, and intellectual landscapes of bygone eras, enriching our understanding of the human journey. The advancement of technology has spurred a growing trend within libraries and archives: the digitization of collections. This approach offers a two-fold benefit: preservation and increased accessibility. By converting physical materials into digital formats, institutions can ensure the long-term safety of their collections, mitigating the risks associated with deterioration and physical handling. Additionally, digitization empowers wider public access, allowing researchers and scholars from across the globe to explore these valuable resources remotely (Akhtar et al., 2024). In 1947, Pakistan inherited a complex manuscript landscape. The partition of the subcontinent unfortunately resulted in an unequal distribution of the vast repository of manuscripts. Notably, two record rooms established in Pakistan in which one was Lahore and second was Karachi and recognized for their good collections of official records. Most were handwritten and not fully integrated into Pakistan's holdings. Estimates suggest that Pakistan has approximately two million manuscripts. This diverse collection encompasses huge variety of subjects, themes and artistic styles (Qutab, 2012). Lahore holds a prominent position within Pakistan's educational landscape. As the capital of Punjab province and the nation's second-largest city, Lahore boasts a well-established reputation for its educational offerings (Sabri et al., 2011). At the time of independence in 1947, Pakistan had just two major libraries, both in Lahore first was Punjab University Library and the second was Punjab Public Library Lahore.

The Government Punjab Public Library (GPPL) build in 1884 and stands as Pakistan's oldest and largest public library (Haider, 1998). Boasting a vast collection within its 22,940 square feet, it holds the distinction of housing the biggest collection in Lahore (256,026 items) (Haider, 2001). Among these holdings, a noteworthy more than one thousand manuscripts display the library's focus on Arabic and Persian materials and "This collection includes a significant Persian translation manuscript by Mullan Abdul Qadir Bdayuni and five manuscripts containing the Persian translation of the Mahabharata" (Safdar et al., 2019).



Figure: 1 Gurmukhi Literature



Figure: 2 Historical News Papers

Punjab Public Library GPPL consist of historical and rare materials that are manuscripts, books, reports, magazines, newspapers and Gazetteers that is the fifteen percent of the total inventory of the Library. These precious materials are very attractive for

¹ International School Lahore (ISL), Pakistan, m.ahmad1867a@gmail.com

² Assistant Professor, Department of Archaeology, University of the Punjab, Lahore, Pakistan, azeem.arch@pu.edu.pk

historical students, scholars and researchers. For this purpose library, build a section for digitization of these materials for long-term preservation in digital format for upcoming peers. According to McMenemy and Poulter (2005), digitization process facilitates the generation of digital surrogates, safeguarding original materials from potential degradation. By contributing to the creation of digital resources through digitization initiatives, professionals can experience a demonstrable enhancement in their confidence, while these efforts also demonstrably benefit end-users. The selection of this specific institution based on the richness and historical importance of its collection as shown in figures 1 and 2. Thus, this study investigates the status of the manuscripts and rare material's digitization of the Punjab Public Library.

1.1. Significance of the Study

The limitation of the investigation was only to Government Punjab Public Library of Lahore. Given the richness and historical significance of the GPPL's rare collection, this study investigates the status of the digitization of manuscripts and rare materials.

1.2. Research Objectives

- To investigate status of the digitization of manuscripts/rare materials.
- To identify the selection criteria of digitization of manuscripts/rare materials.
- To find out the challenges towards digitization of manuscripts/rare materials.

2. Literature Review

Manuscripts and rare materials in libraries serve as precious sources of intellectual heritage. These historical heritages create a connection to the past and futuristic scholarly inquiry for coming generations. The historical records, especially rare materials, encountered many challenges while ensuring their long-term preservation. Many studies revealed that while rare collections aim to bridge the gap between past and present through knowledge dissemination, their fragility necessitates a proactive approach to conservation. There are number of factors which contributed to affect them, including their inadequate maintenance, lack of affordability, insufficient budget, lack of proper infrastructure, and these materials can cause irreparable damage to their lifespan. Prioritizing the proper care of rare collections is not just an ancillary concern, rather an essential component in fulfilling their educational and research potential. According to Allen (2012) and others (Jefcoate, 2000; Shein & Lapworth, 2020; Sobucki, 2003; Sirisawad, 2019) they emphasize and address these issues and their studies point out the status of rare materials and highlight the problems encountered and proposing possible solutions. Ahsan (2009) documented the presence of roughly 0.15 million manuscripts and rare materials in Pakistan, encompassing a variety of languages such as "Persian, Arabic, Sanskrit, Urdu, Pashto, and Sindhi". These rare materials spread among libraries throughout Pakistan.

Shafi and Lone (2022) emphasize the critical need for their preservation through digitization. Pakistan boasts a rich network of longstanding and esteemed public libraries scattered across the nation (Jaswal, 2016). These are renowned for their extensive holdings, which encompass a treasure trove of documentary patrimony. This patrimony includes rare material and manuscripts, historical newspapers, and periodicals of archival significance, all of which provide a window into the eventful past of the people residing in the South Asia region.

As stated by Safdar et al. (2019), the manuscripts and rare materials within libraries serve a vital role in transmitting intellectual heritage across generations. Another study revealed that the carelessness and inappropriate handling could damage these priceless assets. A number of factors like poor maintenance, a shortage of technical trained staff, lack of funding and an inadequate infrastructure can considerably shorten the longevity and availability of rare materials. In order to guarantee that these collections will be useful for study and education in the future, it is imperative that these issues be resolved and they revealed under their investigation that the library with extensive archival holdings faces significant challenges in properly managing and utilizing these valuable assets (Safdar et al., 2019). Thus, the digitization of manuscripts and rare materials with expertise is essential for public library.

3. Methodology

This research adopted a mixed methods approach to explore the digitization of manuscripts and rare materials at the Government Punjab Public Library (GPPL). According to Creswell (2009) mixed methods research has arisen as a strong approach to analysis for quantitative data along with the qualitative data. To investigate digitalization of manuscripts and rare materials at the Government Punjab Public Library (GPPL), this study uses a mixed research methodology. For covering aspects that related to the selection criteria of rare materials and challenges faced during the digitization projects, the qualitative approach was considered and semi-structured interviews were conducted with the entire library staff. For gathering quantitative data, a census technique was used for the entire population that included the current digitization status of manuscripts and rare materials, the percentage of paper items already digitized, and the types of materials prioritized for this project.

4. Findings

4.1. Status of Digitization

Table 1 provides a comprehensive breakdown of the extensive collection held by the Government Punjab Public Library Lahore (GPPL).

According to following table 1, the collection of data revealed that the GPPL comprises 356,730 items. Notably, 56000 approximately classified as manuscripts and rare materials in which 8822 items have scanned in image form and placed in-house internal storage of systems. However, only a portion of 4,402 items has digitized. This digitized subset includes 1,902 manuscripts that mostly comprised to Arabic, Urdu, Punjabi, Persian, Turkey, Kashmiri, Hindi, and Pashtu, Gurmukhi, Sanskrit and 2,500 items categorized as rare books, newspapers, and reports.

Table 1: Inventory of Government Punjab Public Library Lahore

Description of Material	Number of Items	Type of Material	Document Imaging (Scanned)	Number Digitized
English Books	132525	General Collection & Rare	4200	75
Urdu Press Branch	33183	General Collection & Rare	0	0
Urdu Books	80180	General Collection & Rare	21	21
Arabic Books	7967	General Collection & Rare	21	21
Persian Books	5189	General Collection & Rare	25	25
Punjabi Books	4053	General Collection & Rare	50	50
Children Books	8743	General Collection & Rare	0	0
Islamic Material Abdul Hai	4624	Personal Collection	0	0
Brail Books	552	General Collection & Rare	0	0
Hindi Books	6740	General Collection & Rare	0	0
Gurmukhi Books	1579	General Collection & Rare	82	82
Sanskrit Books	1864	General Collection & Rare	100	100
Rifat Sultana Personal Collection	11538	Personal Collection	0	0
Mumtaz Ali Personal Collection	147	Personal Collection	0	0
Dr Azhar Ali Personal Collection	822	Personal Collection	0	0
Moulana Muhammad Ali Qasuri Personal Collection	2370	Personal Collection	0	0
Khawaja Abdul Hameed Personal Collection	61	Personal Collection	0	0
Professor Syed Abdul Qadir Personal Collection	1631	Personal Collection	0	0
Hindi Eetar Singh Personal Collection	1565	Personal Collection	0	0
Reports	17267	Rare Material	3	3
English News Papers Vol	2848	Rare Material	100	1
Urdu News Papers Vol	2631	Rare Material	100	4
Books Rare Bait ul Quran	4421	Rare Material	0	0
Quran e Pak	647	Manuscripts	647	647
Persian Manuscripts Volumes	539	Manuscripts	539	539
Arabic Manuscripts	200	Manuscripts	200	200
Urdu Manuscripts	29	Manuscripts	29	29
Punjabi Manuscripts	8	Manuscripts	8	8
Arabic and Persian Manuscripts	77	Manuscripts	77	77
Miscellaneous				
Turkey Texts	2	Manuscripts	2	2
Kashmiri Texts	1	Manuscripts	1	1
Hindi Texts	2	Manuscripts	2	2
Pashto Texts	2	Manuscripts	2	2
Miscellaneous names Unknown Manuscripts	45	Manuscripts	45	45
Gurmukhi Sanskrit Hindi etc Volumes	350	Manuscripts	350	350
India Gazette	342	Rare Material	342	342
Pakistan Gazette	545	Rare Material	545	545
Punjab Gazette	1131	Rare Material	1131	1131
Urdu magazines Volume	10120	Rare Material	100	100
English Magazines Volume	10190	Rare Material	100	0
Overall Collection of the PPL	356730	Scanned & Digitized Collection of Manuscripts & Rare Material	8822	4402

4.2. General Collection and Rare Materials

Most of the holdings fall in the category known as “General Collection & Rare Material” which contains English books (132,525), Urdu Press Branch material (33,183), Urdu Books (80,180), books in Arabic (7,967), Persian Language (5,189), Punjabi (4,053), Hindi (6,740), Gurmukhi (1,579) and Sanskrit language materials (1,864). This huge collections offer rich resources on different subjects for researchers and general readers.

4.3. Personal Collections

The GPPL also houses noteworthy personal libraries donated by important personalities. These include Rifat Sultana Personal Collection containing 11,538 items and Moulana Muhammad Ali Qasuri Personal Collection comprising of 2,370 items that may provide unique insights into specific interests and scholarly pursuits of the donors.

4.4. Collection of Manuscripts

The library has a strong focus on conservation of works from the past which can be seen in its collection of manuscripts. Table 1 captures a wide range of these manuscripts expressed in several languages such as Persian (539 volumes), Arabic (200 volumes), Urdu (29 volumes) and Punjabi (8 volumes). Additionally, the collection includes other miscellaneous manuscripts written in Turkish, Kashmiri, Pashto among others. These resources are invaluable to historians, literature scholars, and those studying religion.

4.5. Newspapers, Reports, and Gazettes

The GPPL has an important collection for historical newspapers reports gazettes. This includes bound copies of English (2,848) newspapers as well as Urdu (2,631) newspapers that serve as windows into the past events and societal trends. Furthermore the library also conserves unusual materials like “Books Rare Bait ul Quran” (4,421) and India Gazette (342 Volumes) for researchers involved in Islamic studies or South Asian history.

4.6. Magazines

This library holds vast numbers of magazines published both in English and Urdu languages approximately 10,000 each.

Table 2: Calculation according to Manuscripts & Rare collection of the GPPL

Total manuscripts and rare materials	Digitized manuscripts & rare materials	Percentage of manuscripts & rare materials digitized	Remaining rare materials need to digitized	Percentage remaining to rare materials digitize
56000 Approximately	4402	7.86 %	51598	92.13%

The table 2 adopts focused viewpoint specifically scrutinizing the digitization efforts within the manuscripts and rare collection. The small portion 4402 items (7.86 %) of the manuscripts and rare materials themselves have digitized. A substantial gap with significant portion 51598 items (92.13%) of rare materials remaining inaccessible in a digital format. This signifies a considerable disparity between the targeted materials and the progress achieved in the digitization initiative.

4.7. Selection criteria for digitization

The discussions shows how the Punjab Public Library staff has a sophisticated way of selecting materials for digitization. The focus is mainly on preserving the cultural and historical treasures in the library. This emphasis on the intrinsic value and fragility of these items results to a complex selection process that accentuates them in various ways. The main objective of this selection process was ensuring that the most valuable and irreplaceable assets are not lost. It all revolves around historical and cultural significance, with librarians opting for those materials that show more about what happened before and enlighten about different values. This is beyond format; handwritten manuscripts, rare books, old newspapers, even personal belongings can be digitized if they have any historical or cultural importance at all. Some librarians argue for a deeper approach by putting more focus on the inherent value of the actual content. They prefer digitizing resources whose contents can rarely found elsewhere making them very important to researchers from different fields. That perspective goes beyond looking at things from their physical appearances concentrating on what they contain as information. Others take a middle ground, suggesting additional criteria for determining whether something is significant enough to be chosen or not. This might necessitate considering the age of the materials, with a particular emphasis on items predating the 19th century. According to one interviewee,

“The authorship also matters, because things made by famous persons or which have unusual history are seriously treated”.

Besides, during these discussions it emerged that a centralized committee formed by the chief librarian and section In-charge. The committee is careful to select those materials that are exceptional and possibly delicate so much so that frequent usage may lead to their destruction. This results in an increased number of hand-written papers, old rare books, old reports and newspapers to replace in scan and digital format and hence requiring special care.

4.8. Challenges towards digitization

The challenge of this project hence became the most significant obstacle to its success in digitization of manuscripts and other rare collections. The introduction of new digital workflows disrupted established routines, leading to staff resistance as well as regeneration of change management strategies. Moreover, the projects were constrained by budgets thus could not purchase required materials for efficient digitization and expansion of workforce. Similarly, when a standardized training program not put in place, gaps and difficulties were experienced in various aspects of digitizing processes. Additionally, the lack of detailed metadata on the digitized materials can compromise search functionality and retrieval capabilities. Furthermore, compared with format that are more flexible with enhanced security features that allow future functionalities and long-term preservation, this project depended on basic scanning formats probably obstructing them. These difficulties were heightened by lack of keenness on the part of workers involved in the digitization process. Finally, the project did not provide sufficient public access to the digitized material. Additionally, an online platform dedicated specifically to this purpose or easy integration into existing library website was missing. Moreover, through an in-house computer catalog, it is difficult to retrieve and search for digitized.

5. Conclusion

The digitization of manuscripts and rare materials at the government of Punjab Public Library (GPPL), Lahore, Pakistan examined in this research. This shows that there is a huge difference between the available materials and digitized materials. However, limited collections from the rare materials had digitized which indicate that a comprehensive approach towards digitizing need to implement. The selection criteria are based on historically and culturally significant items that are consistent with the best practices. However, project’s effectiveness faced by various challenges including lack of staff training, inadequate metadata creation, limited public

access and budgetary constraints. In order for the GPPL's rare collection to be exploited in future years to come strategic planning needs to be done about those weaknesses such as poor resource allocation, user-centric design as well as staff development so as to improve its success rate significantly.

5.1. Recommendations

Digitization of manuscripts and rare materials at the Government Punjab Public Library (GPPL) in Lahore, Pakistan has some challenging and rewarding aspects that discussed in this study. On the other hand, a significant portion of its collection is still not available digitally. This paper suggests how to improve the GPPL's digitization efforts to safeguard its invaluable collection for future generations.

1. There is an urgent need for a strategic approach on where to start, as there are numerous un-digitized but valuable materials. In collaboration with librarians, curators, and subject matter experts, it would be careful to select those manuscripts and rare items that are culturally or historically significant for scanning them into digital format. The selection process should be adopted the criteria which are related to physical condition of documents, research potential of their contents and uniqueness among other works of literature.
2. The library management should allocate enough funds required to support the digitization project after prioritizing work. These costs include budgeting for hardware upgrades or newer versions of software, hiring new workers or training existing ones who will perform the task and getting necessary supplies. In addition, public-private partnerships could be pursued while exploring grant-funding opportunities.
3. Punjab Public Library need the standardize library staff training. So that through the comprehensive training program for digitization should be implemented in order to fill this gap. These training modules must include proper handling techniques for fragile materials, high-quality scanning procedures, metadata creation best practices and digital preservation strategies.
4. Basic scanning formats and inadequate metadata prevent discovery and long-term access to digitized rare materials. Therefore, a strong meta-data strategy should be applied following established standards by the library. The metadata incorporates information on what the object is about as well as its source and physical details that would facilitate easy searching and retrieval of items users need.
5. To accelerate the process of digitization, it would be necessary for the library to examine innovative ideas. The research institutions, universities as well as the digital libraries can offer their expertise, workers and advancement in technology through collaboration. In addition, there should be modernized systems such as OCR (optical character recognition) and AI (artificial intelligence) that should be incorporated in the library towards enhancing materials' discoverability and usability.

The Government Punjab Public Library would significantly improve its digitization efforts by adopting these suggestions. Thus, staff members who are adequately resourced with appropriately trained personnel together with an easy-to-use website interface through which they will maintain consistent metadata diligence shall ensure that the library's unique holdings will be preserved and accessed for generations to come.

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