

Digital Archiving and Access to Print Media Resources: A Study among Leading Malayalam Newspaper Libraries in Kerala

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Abstract - A newspaper library is a significant provider of various information sources needed for the media professionals. Librarians working in newspaper libraries have to play an outstanding role to pace with the changing scenario. The transformation of newspaper archives from print to digital is a noteworthy initiative by newspaper libraries. The paper presents a digital archiving initiative by newspaper libraries. It points out the need, purpose, and advantages of digital news archives. The paper also highlights the IT infrastructure facilities used and shares the challenges faced by librarians in the process of digital archiving.

Keywords: Newspaper Libraries, Digital Archiving, Newspaper Librarians, Journalists

I. INTRODUCTION

Mass media plays an outstanding role in creating consciousness in people about what is happening around the world. It creates a platform for sharing and accessing information and entertainment. In a democratic society, the three public institutions, the Executive, Legislative and the Judiciary, the Press is regarded as the Fourth Estate. The press has a very important place in the society. It manifests the freedom of speech and expression of the people. Although radio and television have made a high impact on society, the newspaper continues to be the basic news medium.

Among the information sources, newspaper plays a predominant role in providing the latest information to people in their daily life. The newspaper industry is not an exceptional one, which is also being affected by the development of digital technology. The development of communication via Internet and subsequent development in the field of newspaper industry has changed its role substantially. The enormous development in the digital media has brought revolution in the field of journalism (Flavian & Gurra, 2006). The content of the newspaper contains cultural data, social event, political news, economic news of national and international and so on. This information is being checked, authenticated and published with the help of journalists, who are real people behind the news. They used to present various news and events to the society through various media such as newspapers, magazines, radio, television or the Internet. To satisfy the information needs of the journalists, newspaper libraries are enriched with all the latest collection of resources and

services. Libraries attached to the newspaper organizations plays a prominent role in meeting the information needs by providing various new and innovative services to the user community. Librarians working in the newspaper libraries must play a greater role in this digital environment because a lot of changes are happening which warrants the librarians to equip themselves and abreast their knowledge. The rapid development of electronic imaging and storage technology helps to access any piece of information in any format at any time. In newspaper libraries, past news, photographs, images, etc are very important and the staff working in the newspaper organization used to access that information frequently. Computers help to store huge amounts of materials in digital form, whereas storing these materials in homes and offices have disadvantage like a change of fragile, damage, loss, etc. (King, 2018). According to Hermans, Vergeer, d'Haenes (2009), technological innovation has influenced journalism and the Internet, which provides opportunities to exchange the news among a broad audience. Digital archiving and preserving the newspaper is the only solution to keep the newspapers accessible whenever needed. Hence, librarians working in the newspaper libraries should be well qualified and skilled so that they can fulfil the information needs of the journalists as and when required.

The difficulty and impatience with manual searching, growing interest in the primary source material, saving the space, the need to preserve and archive in multiple formats and the expectations of researchers are driving needs for newspaper digital archives.

A. Role of Newspaper Librarians

Newspaper library opens an information gateway to people working with print media as well as researchers. The role of a newspaper librarian is very challenging since he has to act as an intermediary between the journalists and the information sources. It is the duty of the news librarian to go through various news items, study, scrutinize and make them available for retrieval. Journalists require previously published reporting or compiled data as context for the story on which they are currently working. Archivists ensure that material is preserved for future retrieval. Local news archives serve as a cultural, legal, economic, and genealogical resource for their communities (Domínguez-Delgado, Hansen & Paul 2019).

News librarians must disseminate information necessitated by the journalists at a faster rate and he must act as a knowledge manager, advisor and moreover an excellent guide to the end users. There must be a strong bonding between the newsroom and newspaper library. Rapid developments in information and communication technology have changed the face of newspaper libraries. As an information gatekeeper, it is the duty of the librarian to transform the library resources from print to digital. The developments in information technology and transfer of information, difficulties in manual preservation, demand from the journalists and researchers, considering the future demands from the public and the success stories of other news archives have motivated the news librarians to build up digital news archives. Journalists require previously published reporting or compiled data as context for the story on which they are currently working.

B. Newspapers in the Forefront: An Overview

The leading Malayalam newspapers published from Kerala include Mathrubhumi, Malayala Manorama, Madhyamam and Deepika.

Mathrubhumi is one of the front-runners among the Malayalam newspapers published from Kozhikode, Kerala. The first copy of Mathrubhumi was published on the 18th of March 1923. Now Mathrubhumi has got sixteen editions-inside and outside Kerala and abroad. It has an impressive circulation of over 1.5 million copies.

Malayala Manorama, published from Kottayam, Kerala, India by Malayala Manorama Company Limited was first published as a weekly on 22 March 1890, currently has a circulation base of over 2.1 million copies. It has 19 printing centers all over the world.

Deepika, a Malayalam language newspaper, is one of the oldest newspapers published from Kottayam, Kerala, India. The newspaper was started in 1887. Deepika publishes editions from Kottayam, Kochi, Kannur, Thrissur, Thiruvananthapuram, and Kozhikode.

Madhyamam is a Malayalam newspaper published from Kerala, India, since 1987. It was founded in 1987 by the Ideal Publications Trust. Now it has nine editions in India and its Persian Gulf edition Gulf Madhyamam has nine in the Middle East. Madhyamam is the fourth popular newspaper in Kerala with a readership of 904,000 readers.

II. REVIEW OF LITERATURE

Journalists require previously published reporting as a context for their new stories (Domínguez-Delgado, Hansen & Paul 2019). This article explores the current state of journalism and library and information science education to see if there is an awareness of and sensitivity to the importance and value of news archiving presented in journalism programs, and how the special needs of

archiving journalistic content are addressed in library and information science programs. To examine how much collaboration exists between university-based journalism education and library and information science education globally, this project used the 2016 Academic Ranking of World Universities to identify the top 200 universities worldwide. The article also suggests ways to strengthen education in news archiving in these programs. In a study King (2018) tried to review the personal digital archiving literature and analyzed how it would be useful to satisfy the unique needs of journalists. The paper pointed out the need to expand the digital archiving concept as the journalists need to save their work for future use. Kraemer (2015) in his paper Digital newspaper preservation through collaboration studied about a joint venture to create a large scale, state wide digital newspaper preservation hub in Texas.

This paper details how individual partnerships led to new and larger partnerships. The paper aimed to explore how the Texas Digital Newspaper Program built a strong foundation of collaboration and support for large-scale preservation projects, including support for preserving a state press association PDF newspaper collection. As a case study, the data explored include numbers of partnering institutions, materials contributed by partnering institutions and how these numbers help to forward the TDNP agenda.

In an article about the preservation of newspapers, Somnath Das (2009) presented the importance of newspaper to the society and the need for preserving it for future use. The paper put forward the procedures for preserving newspaper and various tools and software that Times Group is using for the preservation of their publications.

III. OBJECTIVES OF THE STUDY

The main objectives of the study are

1. To study about the digital archiving initiative by newspaper libraries.
2. To understand the purpose of starting a digital news archive.
3. To know about the Infrastructure facilities used for archiving the digital information.
4. To assess the opinion of librarians about the advantages of digital archiving of newspapers.
5. To find out the challenges faced by librarians in the process of digital archiving.

IV. METHODOLOGY

The study covers only the librarians working with four leading Malayalam newspapers in Kozhikode District, Kerala. Data collection was completed with distributing questionnaires among the four librarians, working with Mathrubhumi, Malayala Manorama, Madyamam and Deepika.

V. ANALYSIS AND INTERPRETATION

The data collected through questionnaires were analyzed and interpreted using statistical tools and for further suggestions. All the leading Malayalam newspaper libraries have started the digital archiving of newspapers foreseeing the demands of journalists and public and they have almost completed the process starting from the first publication.

TABLE I YEAR OF COMMENCEMENT OF DIGITAL ARCHIVE INITIATIVE

Year of Digital Archive Initiative			
Mathrubhumi	Malayala Manorama	Madhyamam	Deepika
1994	1992	2015	2000

The table I show that Mathrubhumi, a leading Malayalam newspaper daily started the digital archiving of newspapers in the year 1994, Malayamanorama in 1992, Madhyamam in 2015 and Deepika in 2000.

TABLE II SOFTWARE USED FOR DIGITAL ARCHIVING

Software Used	Mathrubhumi	Malayala Manorama	Madhyamam	Deepika
Commercial	Yes	No	Yes	No
In-House	No	Yes	No	Yes
Open Source	No	No	No	No

From table II, Newspaper libraries are using different types of software for digital archiving process. Mathrubhumi and Madhyamam daily depend on commercial software whereas Malayala Manorama and Deepika use in house software for the digital archiving of newspapers.

There are many factors which prompt and motivate librarians to get on to digital archive initiatives. The librarians participated in the study are requested to select the factors which contributed to the development of digital news archive. From the options given below they were asked to rank according to the order of preference. The result of the analysis is depicted in Table III given below.

The table III shows that the most important factor which influenced the librarians to start digital archive is to keep pace with changing scenario. The difficulties they faced in the manual preservation and development in IT were the other factors. Considering the demand from the editorial staff and future demands from the public were other important factors which inspired librarians for this initiative. The decision from the management and the huge investment for the procurement and binding were also opined as factors motivated for digital archiving.

TABLE III FACTORS INFLUENCED TO START A DIGITAL ARCHIVING INITIATIVE

Factors	Mathrubhumi	Malayala Manorama	Madhyamam	Deepika	Average Rank	Rank
Demand from the editorial staff	3	4	3	5	3.75	4
To keep pace with the changing scenario	1	1	2	2	1.50	1
Development in IT and transfer of information	2	3	7	1	3.25	3
Decision from management	5	5	6	6	5.50	6
Success stories from other news archives	7	8	8	7	7.50	8
Considering the future demands from the public	6	7	4	3	5.00	5
Difficulty in manual preservation	4	2	1	4	2.75	2
Huge investment for the procurement and binding	8	6	5	8	6.75	7

There are many advantages in the digitization of newspaper archive. It not only provides better access to information but also saves a huge amount of space.

TABLE IV VIEWS ON THE ADVANTAGES OF DIGITIZING THE NEWSPAPER ARCHIVES

Advantages	Mathrubhumi	Malayala Manorama	Madhyamam	Deepika	Average	Rank
Information gateway to journalists	3	3	3	3	3.00	1
Helps to access the news immediately	3	3	3	3	3.00	1
Easy access to the information in the past	3	3	3	3	3.00	1
Provides access to a unique and special collection	2	3	3	3	2.75	2
Helps to access research and educational information	2	3	3	3	2.75	2
Digitization cater to each person's needs	3	3	3	3	3.00	1
Very cost effective	3	2	3	1	2.25	4
Helps in satisfying the newsmongers	2	3	3	2	2.50	3
Access to newspapers anytime, anywhere	2	3	3	3	2.75	2
The gap between past and present can be filled	3	3	3	3	3.00	1
Well controlled storage and handling conditions	3	3	3	3	3.00	1
Search by many options	3	3	3	3	3.00	1

The general analysis from the table IV shows that the factors such as digital archives are information gateway to

journalists, helps to access the news immediately, easy access to the information in the past, digitization cater to each person's needs, the gap between past and present can be filled, well-controlled storage and handling conditions, search by many options were considered as the most important views on the advantages of digitizing the newspaper archives. The other important advantages according to librarians were Digital news archives provides access to a unique and special collection, helps to access research and educational information, access to newspapers anytime, anywhere.

Digital news archives provide various facilities to the end users. The table V gives an overview of the facilities provided by the digital news archives of the four newspapers.

TABLE V FACILITIES PROVIDED BY THE DIGITAL NEWS ARCHIVES

Facilities Provided	Mathrubhumi	Malayala Manorama	Madhyamam	Deepika
Open access worldwide	No	No	No	No
Open access to journalists and other staff	Yes	Yes	Yes	Yes
Access is through authentication	Yes	Yes	Yes	Yes

All the four newspaper libraries do not provide open access facility worldwide. They have restricted the accessibility to the working journalists and other staff. The accessibility to digital archive is through authentication.

Developing a search strategy in order to attain more precise and relevant information is extremely important.

TABLE VI SEARCH OPTIONS

Search Options	Mathrubhumi	Malayala Manorama	Madhyamam	Deepika
Keyword	✓	✓	✓	✓
Subject	✓	✓	✓	✓
News heading/Title	✓	✓	✓	✓
Date & year	✓	✓	✓	✓
Name of Reporter/Editor	✓	✓	✓	✓
Photo search	✓	✓	✓	✓

The table VI reveals that all the newspaper libraries have advanced search techniques to its end users.

A well advanced, well-designed information technology infrastructure is essential for developing digital news archives.

TABLE VII INFRASTRUCTURE FACILITIES USED FOR DIGITAL NEWS ARCHIVES

S. No.	Name of Equipments	Mathrubhumi	Malayala Manorama	Madhyamam	Deepika
1	Servers				
1.1	Central Server	Yes	Yes	Yes	Yes
1.2	Web server	Yes	Yes	Yes	Yes
1.3	Database server	Yes	Yes	Yes	No
1.4	Workstation for clients	Yes	Yes	No	No
2	Scanners	Yes	Yes	Yes	Yes
3	Web/Digital camera	No	No	No	No

Servers are decisive in providing a reliable platform for the digital archives. From the table VII, it is clear that Mathrubhumi and Malayala Manorama are using all types of servers, scanners for digital archiving. Since scanners are an essential device in digital archiving it is used by all the newspaper libraries. Availability of an adequate number of workstations is an important prerequisite of a digital news archive. The table shows that Madyamam and Deepika are yet to provide an adequate number of workstations for clients.

The scanners are very important in digital imaging, organization and conversion of print to digital.

TABLE VIII TYPE OF SCANNER USED

S. No.	Scanners Used	Mathrubhumi	Malayala Manorama	Madhyamam	Deepika
1	Photo scanner	Yes	Yes	Yes	Yes
2.	Microfilm scanner	No	No	No	No
3.	Document scanner	Yes	Yes	Yes	Yes
4.	others	No	No	No	No

The table VIII depicts that all the newspaper libraries are using photo scanners and document scanners for their successful completion of the digital archiving initiative.

Newspaper libraries use different types of digital storage media, external as well as system storages, to preserve their collection. The table IX reveals that all the newspaper libraries use hard drives as their storage media. Mathrubhumi also uses Tape drives for storing digital information. Malayala Manorama uses net server also for storing their digital collection of newspapers.

TABLE IX STORAGE MEDIA USED

S. No.	Storage Media	Mathrubhumi	Malayala Manorama	Madhyamam	Deepika
1	CD	No	No	No	No
2.	Data Tape	No	No	No	No
3.	Hard Drives	Yes	Yes	Yes	Yes
4.	Tape Drives	Yes	No	No	No
5.	Net server	No	Yes	No	No

The newspaper libraries are facing many challenges that prevent them from meeting the digitization goals. The librarians were asked about the challenges they faced in the building up of a digital news archive. Some challenging factors were identified and listed and the respondents were asked to rate those factors based on scale 1-5, viz, Scale 1 - not a problem, Scale 2- slightly problematic, Scale 3- problematic, Scale 4- very problematic and Scale 5- extremely problematic. The weighted average scores were computed based on the scores obtained from each challenge. The scores are presented in table X.

TABLE X CHALLENGES FACED IN DIGITAL NEWS ARCHIVE DEVELOPMENT

Challenges Faced	Mathrubhumi	Malayala Manorama	Madhyamam	Deepika	Weighted Average Score	Rank
Lack of funding	1	1	2	2	1.50	2
Insufficiently trained staff	2	3	2	3	2.50	5
Lack of management support	1	1	1	1	1.00	1
Preservation problems	3	1	3	2	2.25	4
Technological obsolescence	2	1	2	1	1.50	2
Lack of specialized equipment	2	1	2	1	1.50	2
Legal issues	3	1	3	1	2.00	3
Security problems	3	1	3	1	2.00	3
Lack of policies	2	1	2	1	1.50	2
Lack of infrastructure facilities	2	1	2	1	1.50	2

It can be inferred from the table X that insufficiently trained staff was the most important challenge faced by the librarians in the digitization process (weighted average score of 2.50). They also faced certain digital preservation problems (weighed score 2.25), and legal issues and security problems (weighted score 2.00) were seen as problematic in the process of digitization. Lack of funding, lack of policies and infrastructure facilities (weighted score

1.50) were other challenges faced by the librarians in developing digital news archive. Lack of management support is identified as the least challenging issue.

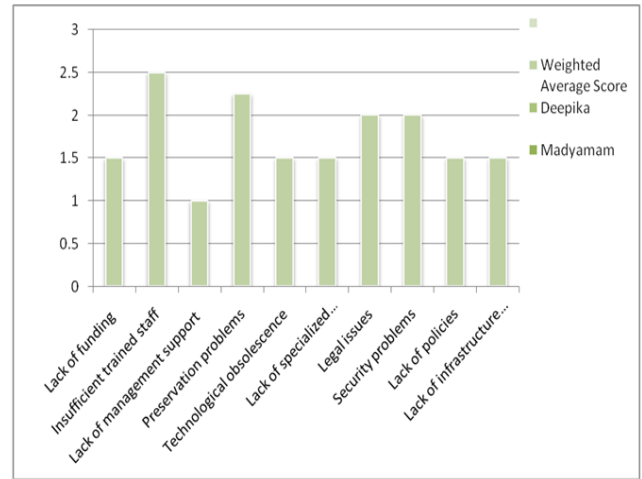


Fig. 1 Challenges faced in digital news archive development

The inferences made from the analysis of the data collected are detailed to ascertain major findings.

VI. FINDINGS AND CONCLUSION

The study helped to reach certain conclusions regarding the present situation of digital archiving of newspapers in leading Malayalam newspaper libraries in Kerala. In order to keep pace with changing scenario, the newspaper librarians took the initiative of digitization. All the four libraries have almost completed the process of digital archiving. The factors such as digital archives are information gateway to journalists, helps to access the news immediately, easy access to the information in the past, digitization cater to each person's needs, the gap between past and present can be filled, well-controlled storage and handling conditions, search by many options were considered as the most important views on the advantages of digitizing the newspaper archives. All the newspaper libraries provide open access to only journalists and other staff. It facilitates advanced search techniques. A well advanced IT infrastructure is implemented for the development of the digital archive. Librarians have faced many challenges in the pathway of digitization of news archives.

The conversion of print to digital and their storage and processing is a very important part of building a digital archive. The digitization of the news archive is a complex task which needs managerial and technical skills. It's highly appreciable that all the leading Malayalam newspaper libraries in Kerala have taken the initiative and majority have successfully completed the process of digital archiving of newspapers. A newspaper library plays an inevitable role in the production of news. Journalists need a large volume of information at a faster rate and their attitude towards seeking information has been changed. In order to make

information service to be successful, the newspaper librarians have to manage changes and transform the print media to digital thereby fulfilling the information needs and ensuring prompt and speedy access to authentic information sources.

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