Digital Asset Management in Selective Television Libraries in India : a study

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Abstract :

Television libraries transformed from a physical disk library to a simple file base library. Later with the rapid growth of assets and reusing or repurpose using of news become the main challenge to the television industry. To better manage these assets, information and news Digital Asset Management (DAM) has emerged. This study is to investigate the overall status of services in selective Indian television libraries with the introduction of DAM. It is found that to handle a huge number of data most of the television libraries have started complete automation. Cost-effectiveness makes DAM essential in television library functioning. To prevent data loss and privacy it is recommended that DAM must be implemented in the television library. Online and offline both backup must be taken in television libraries for data security. Metadata tagging must be included in DAM workflow for effective information retrieval and smooth data export.

Keywords :

Digital Asset Management, Television library, India, DAM workflow, Metadata tagging, Data security, Backup process.

1. Introduction :

Television is the prime source of information for society. It plays a vital role in information dissemination in society. Information and news cater from television help to build social-political, economic, and cultural perception. In this aspect as a heart of an organisation television library has a great responsibility to fulfil the information demand of editors, journalists, reporters, and other users in their news making. Television libraries not only satisfy internal and external users' demands but also collect, organise and curate huge information and act as the nation's socio-cultural heritage. Every day huge information is stored in the archive or

library of television houses and it becomes a rich resource of news and information for future work. But in this age of digital era, it is a tough job to manage this huge data manually. Therefore, DAM is highly required in the television library. DAM is also effective to provide service in a quick manner which is a requirement of the television industry to sustain in high completion among other television channels. Data security and maintaining news privacy is another challenge of television libraries.

2. Literature Review :

It was found that media asset management (MAM) is the backbone of an organisation which includes workflow analysis, technical requirement, recommendation, architecture blueprint, solution design, implementation in a small scale media house, testing, rollout customised solution, and training. It was suggested that for maturity and prevent risk factors aforesaid steps must be done before project implementation (Tourneur, 2005). The video production industry like the TV industry worked through an intermediate period between video tape-based and digital production methodologies with metadata integration. (Comerford, 2006). It was also explored the need for an organised and efficient model workflow to manage the shortage of storage space happening due to expanding formats and sources of content and high resolution of video content. (Coughlin, 2007). This was also suggested to successfully designing the news digital systems of audio-visual documentation (Agirreazaldegi, 2008). For DAM different metadata standards for resource, the description was mentioned such as MARC 21 formats, MARCXML, MODS, MADS, EAD, and digital library standards like METS, MIX, NISO, PREMIS, TextMD, ISO/DIS 25577, ISO 2077, ALTO, etc. (Paul, 2010). It was also suggested that library management software should be used in the library especially for circulation which was very much essential. The building of the electronic media library should have adequate infrastructure to preserve the AV materials and the librarians should be deputed for the training programmes and workshops on regular intervals for better handling of digital materials (Das & Das, 2010; Biswas, Nausheen, & Chakrabarti, 2011). It was suggested that the broadcasters should as early as possible provide attention to data security and move in Internet Protocol (IP) technology to get the speed and other benefits (Vecchi, 2014).

3. Objectives :

The objectives of the study are:

a) to study the overall DAM system in television libraries in India including all processes, sources, services and assets.

b) to assess the cost-effectiveness and powerfulness of digital assets management solution in television libraries in India,

c) to understand the information architecture, specifically, the role of metadata standardisation and security measures of television libraries' assets.

4. Scope and limitations :

Selective television channel Libraries in India have been covered in this study. There were more than 850 permitted private satellite TV channels and government TV channels according to Ministry of Information and Broadcasting. With the help of a rank list of Broadcast Audience Research Council of India (BARC) television channels had been selected. As per BARC TV channels top 10 Television channels, top 5 English news channels and top 5 Hindi news channels had been selected.

5. Methodology :

A survey method was followed to carry out this study. An analytical survey was the main method used for this study. Data were collected through questionnaires, interviews, and personal observation. Existing academic literature about television libraries and DAM was an interview with commercial media senior executives and different personnel engaged with the broadcasting production house. A total of 200 questionnaires were sent to twenty Television channels. Among these 110 responses were received.

6. Analysis :

As per objectives DAM in television libraries in India have been analysed as follows :

Table 6.1: General Information of Indian Television channels taken for survey. [As per the rank list of Broadcast Audience Council (BARC), India 50 week data in 2018]

Rank No.	Name of Television Channels	Language	Year of Establishment
	General TV Channels		
1	Sun TV (ST)	Tamil	1991
2	Zee Anmol (ZA)	Hindi	2013
3	Sony Pal (SP)	Hindi	2014
4	Sony MAX (SM)	Hindi	1999
5	Zee TV (ZT)	Hindi	1992
6	Star Maa (STM)	Telugu	2002
7	Colors (CO)	Hindi	2012
8	Sony Wah (SW)	Hindi	2016
9	Star Bharat (STB)	Hindi	2017
10	Star Plus (STP)	Hindi	1992
	Hindi News Channels		
11	Aajtak (AT)	Hindi	2000
12	India TV (ITV)	Hindi	2004
13	NDTV	Hindi	1988
14	News 18 India (N18)	Hindi	1999
15	Zee News(ZN)	Hindi	1999
	English News Channels		
16	DD India (DDI)	English	1995
17	Republic TV (RT)	English	2017
18	Times Now (TN)	English	2006
19	India Today Television (ITT)	English	2003
20	CNN News 18 (CN 18)	English	2005

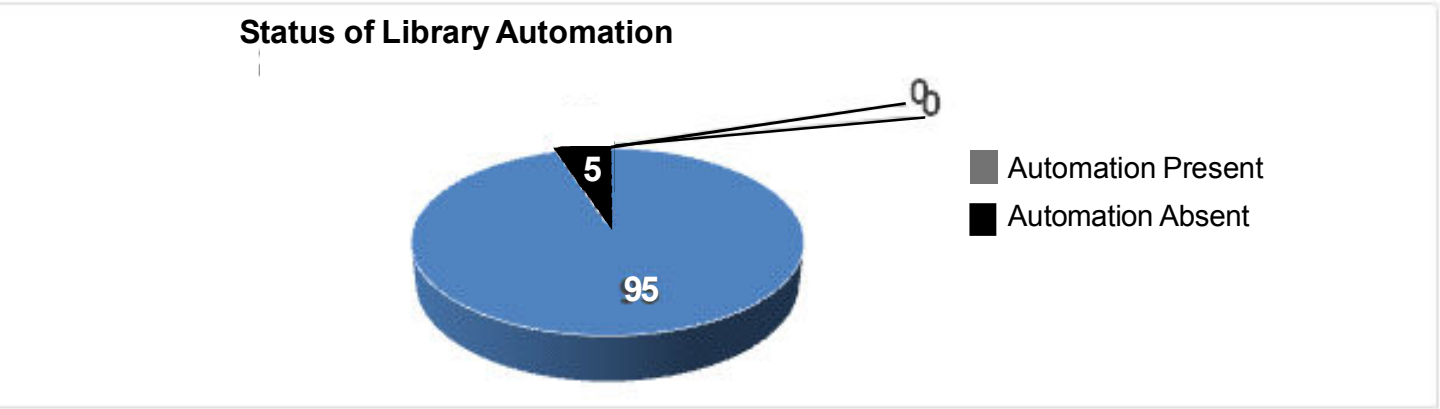
Table 6.1 shows that as per the rank list of BARC report, Sun TV was the highest viewing television channel in India. AajTak was the highest viewing channel among other selected Hindi news channels and DD India was the highest viewing English news channel. Among these 20 television libraries, NDTV is the oldest one, estab-

lished in 1988. This table also displays that there were only two regional language channels i.e. Sun TV (ST) and Star Maa (STM) among the rank list of general television channels. ST has established in 1991and it is a Tamil television channel and STM is a Telugu television channel established in 2002. From this table, it is also shown that Republic TV (RT) and Star Bharat (STB) are the youngest television channels in this rank list. Both these channels started in the year 2017.

Table 6. 2 : Status of Library Automation in different Television Libraries in India.

Status of Television Libraries	Library automation Present	Library automation Absent
Total	19	01 Star Bharat (STB)
Percentage	95	5

Figure 6. 1 : Status of Library Automation in different Television Libraries in India.



From table 6.2 and Fig. 6.1 it is clear that 95% Television libraries havealready started library automation process for digital asset management of their libraries. Only Star Bharat (STB) have not begun library automation process for their library functioning.

Table 6.3: Different types of Assets used in Different Television Libraries in India

SL. No.	Name of Television Libraries	AV File	Photo	Graphics	Image	Story	Cartoon	Logo	Books	Periodicals
1	Aajtak (AT)	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	CNN News 18 (CNN18)	✓	✓	✓	✓	✓	✓	✓	×	✓
3	Colors (CO)	✓	✓	✓	✓	✓	✓	✓	×	×
4	DD India (DDI)	✓	✓	×	✓	✓	✓	✓	×	✓
5	India Today Television (ITT)	✓	✓	✓	✓	✓	✓	✓	✓	✓
6	India TV (ITV)	✓	✓	✓	✓	✓	✓	✓	×	✓
7	NDTV (NDTV)	✓	✓	✓	✓	✓	✓	✓	✓	✓
8	News 18 India (N18)	✓	✓	✓	✓	×	✓	✓	×	✓
9	Republic TV (RT)	✓	✓	×	✓	✓	✓	✓	×	✓
10	Sony MAX (SM)	✓	✓	✓	✓	✓	✓	✓	×	×
11	SonyPal (SP)	✓	✓	✓	✓	✓	✓	✓	×	×
12	Sony Wah (SW)	✓	✓	×	✓	✓	✓	✓	×	×
13	Star Bharat (STB)	✓	✓	✓	✓	✓	×	×	×	×
14	Star Maa (STM)	✓	✓	✓	✓	✓	×	✓	×	×
15	Star Plus (STP)	✓	✓	✓	✓	✓	✓	✓	✓	×
16	Sun TV (ST)	✓	✓	✓	✓	✓	✓	✓	✓	×
17	Times Now (TN)	✓	✓	✓	✓	✓	✓	✓	✓	✓
18	Zee Anmol (ZA)	✓	✓	×	✓	✓	×	✓	×	×
19	Zee News (ZN)	✓	✓	✓	✓	✓	✓	✓	✓	✓
20	Zee TV (ZT)	✓	✓	✓	✓	✓	✓	✓	×	×
	Total	20	20	16	20	19	17	19	07	10
	Percentage	100	100	80	100	95	85	95	35	50

Table 6.3 shows the different types of assets used in different Television Libraries in

India. It also depicts that AV files, photos and images were the resources available in all television libraries (100%). Sixteen Television libraries (80%) libraries have graphics as resources. Nineteen Television libraries (95%) have news story as library resources.Seventeen television libraries (85%) have cartoon in their library collection as resources. Logo is used in nineteen libraries. Ten Television libraries (50%) have periodicals in their collection as resources. From table 6.3 it is revealed that 65% television libraries do not have books in their collection. Only seven television libraries (35%) have books as their assets.

Table 6.4: Types of Services of DAM in Different Television Libraries in India

SL. No.	Name of Television Libraries	Reference Service	Bibliographic Service	Archival Services	Provide water marked footage in CD/DVD format	Translation Service
1	Aajtak (AT)	✓	✓	✓	✓	✓
2	CNN News 18 (CNN18)	✓	✓	✓	✓	✓
3	Colors (CO)	✓	✓	✓	✓	×
4	DD India (DDI)	✓	✓	✓	✓	✓
5	India Today Television (ITT)	✓	✓	✓	✓	✓
6	India TV (ITV)	✓	✓	✓	✓	✓
7	NDTV	✓	✓	✓	✓	✓
8	News 18 India (N18)	✓	✓	✓	✓	✓
9	Republic TV(RT)	✓	✓	✓	✓	✓
10	Sony MAX (SM)	✓	✓	✓	✓	×
11	SonyPal (SP)	✓	✓	✓	✓	×
12	Sony Wah (SW)	✓	×	✓	✓	×
13	Star Bharat (SB)	✓	✓	✓	✓	×
14	Star Maa (STM)	✓	×	✓	✓	×
15	Star Plus (STP)	✓	✓	✓	✓	×
16	Sun TV(ST)	✓	✓	✓	✓	×
17	Times Now (TN)	✓	✓	✓	✓	✓
18	Zee Anmol (ZA)	✓	✓	✓	✓	×
19	Zee News (ZN)	✓	✓	✓	✓	✓
20	Zee TV(ZT)	✓	✓	✓	✓	×
	Total	20	18	20	20	10
	Percentage	100	90	100	100	50

Table 6.4 depicts the services provided by DAM in different television libraries in India.This table also shows that all television libraries (100%) provided reference service and watermarked footage in CD or DVD format. 18 libraries (90%) have provided bibliographic service. 10 television libraries (50%) have provided translation service.

Table 6.5 : Distribution of DAM Workflow of Different Television Libraries in India

SL. No.	Name of Television Libraries	Automatic Ingestion	Editing Raw Footage	Metadata Tagging	Central Cataloguing	Encryption/ Watermarking	Archiving for repurpose use
1	Aajtak (AT)	✓	✓	✓	✓	✓	✓
2	CNN News 18 (CNN18)	✓	✓	✓	✓	✓	✓
3	Colors (CO)	×	✓	✓	✓	✓	✓
4	DD India (DDI)	×	✓	✓	✓	✓	✓
5	India Today Television (ITT)	✓	×	✓	✓	✓	✓
6	India TV (ITV)	✓	×	✓	✓	✓	✓
7	NDTV	✓	×	✓	✓	✓	✓
8	News 18 India (N18)	✓	✓	✓	×	✓	✓
9	Republic TV(RT)	✓	✓	✓	✓	✓	✓
10	Sony MAX (SM)	×	✓	×	×	✓	✓
11	SonyPal (SP)	×	×	×	×	✓	✓
12	Sony Wah (SW)	×	×	×	×	✓	✓
13	Star Bharat (SB)	×	×	×	×	✓	✓
14	Star Maa (STM)	×	✓	×	×	✓	✓
15	Star Plus (STP)	×	✓	×	✓	✓	✓
16	Sun TV(ST)	×	✓	×	×	✓	✓
17	Times Now (TN)	✓	✓	✓	✓	✓	✓
18	Zee Anmol (ZA)	×	✓	✓	✓	✓	✓
19	Zee News (ZN)	×	✓	✓	✓	✓	✓
20	Zee TV(ZT)	×	✓	✓	✓	✓	✓
	Total Score	08	14	13	13	20	20
	Percentage	40	70	65	65	100	100

Table 6.5 depicts that only 8 television libraries (40%) have automatic ingestion in workflow and in fourteen television libraries (70%)raw footage editing have been included in workflow. Metadata tagging has been followed in 13 television libraries (65%) and central cataloguing process is presentin thirteen libraries. All television libraries (100%) had watermarking and archiving for repurpose use facilities in DAM workflow.

Table 6.6 : Distribution of Different types of Video Content Metadata Standard used in Television Libraries in India

SL. No.	Name of Television Libraries	MPEG 7	MPEG 21	IPTC	SMPTE
1	Aajtak (AT)	✓	✓	×	×
2	CNN News 18 (CNN18)	✓	✓	×	×
3	Colors (CO)	✓	✓	×	×
4	DD India (DDI)	✓	✓	×	×
5	India Today Television (ITT)	✓	×	×	×
6	India TV (ITV)	✓	✓	×	×
7	NDTV	✓	✓	×	×
8	News 18 India (N18)	✓	✓	×	×
9	Republic TV(RT)	✓	✓	×	×
10	Sony MAX (SM)	✓	✓	×	✓
11	SonyPal (SP)	✓	✓	×	✓
12	Sony Wah (SW)	✓	×	×	✓
13	Star Bharat (SB)	✓	×	×	✓
14	Star Maa (STM)	×	✓	×	✓
15	Star Plus (STP)	✓	✓	×	✓
16	Sun TV(ST)	✓	×	×	✓
17	Times Now (TN)	✓	×	✓	×
18	Zee Anmol (ZA)	✓	×	✓	×
19	Zee News (ZN)	✓	×	×	×
20	Zee TV(ZT)	✓	×	×	×
	Total	19	12	02	07
	Percentage	95	60	10	35

Table 6.6 shows the distribution of different types of video content standard used in television libraries in India. It is clear from this that MPEG 7 was the maximum used (95%) video content format in nineteen television libraries. MPEG 21 was used in twelve television libraries (60%). SMPTE video format is present in 7 television libraries (35%). Times Now and Zee Anmol only these two television libraries used IPTC format for video content.

Table 6.7 : Different Backup Process of News and Information System of Different Television Libraries in India

SL. No.	Name of Television Libraries	Online Backup	Off-line	Online+ Off-line
1	Aajtak (AT)	No	Yes	No
2	CNN News 18 (CNN18)	Yes	No	No
3	Colors (CO)	No	Yes	No
4	DD India (DDI)	No	Yes	No
5	India Today Television (ITT)	Yes	Yes	Yes
6	India TV (ITV)	No	Yes	No
7	NDTV	No	Yes	No
8	News 18 India (N18)	Yes	No	No
9	Republic TV(RT)	No	Yes	No
10	Sony MAX (SM)	Yes	Yes	Yes
11	SonyPal (SP)	Yes	Yes	Yes
12	Sony Wah (SW)	No	Yes	No
13	Star Bharat (SB)	Yes	No	No
14	Star Maa (STM)	No	Yes	No
15	Star Plus (STP)	Yes	Yes	Yes
16	Sun TV(ST)	Yes	Yes	Yes
17	Times Now (TN)	Yes	Yes	Yes
18	Zee Anmol (ZA)	No	Yes	No
19	Zee News (ZN)	Yes	Yes	Yes
20	Zee TV(ZT)	Yes	Yes	Yes
	Total	11	17	08
	Percentage	55	85	40

Table 6.7 presents that 11 Television Libraries (55%) which have followed only on-line backup process and 17 Television libraries (85%) have taken off-line backup. and 8 Television libraries (40%) have used to take both on-line and off-line backup.

Table 6.8 :Recognition level of DAM Powerfulness in Different Television Libraries in India.

Level of Satisfaction of DAM users	Class Interval	Mid Value(x)	Frequency	Percentage
Strongly disagreed	0-1	0.5	0	0
Disagreed	2	1.5	16	14.55
Neither agreed nor disagreed	3	2.5	18	16.36
Agreed	4	3.5	52	47.27
Strongly agreed	5	4.5	24	21.82
No response	6	0	0	0
Total	-	-	110	100

Fig 6.2. Showing Recognition level of DAM Powerfulness in Different Television Libraries in India.

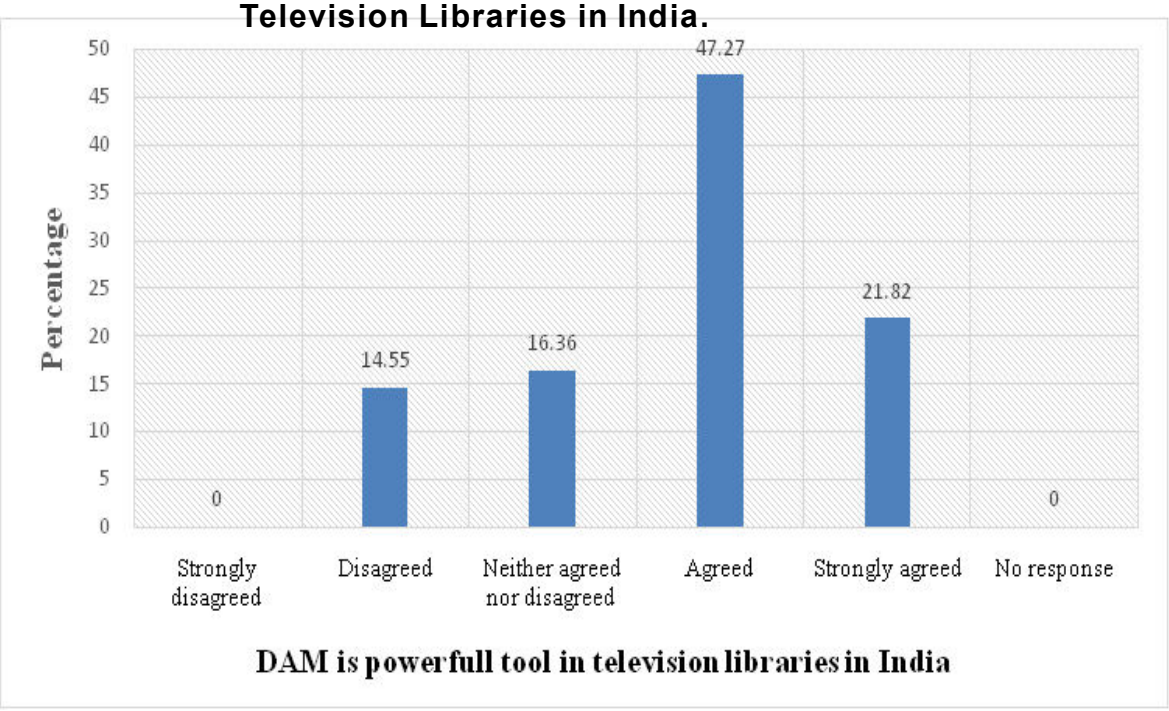


Table 6.8 and figure 6.2 show that among 110 respondents of television libraries, 52 respondents (47.27%) were agreed and 24 respondents (21.82%) were strongly agreed that DAM is a powerful tool for library functioning. The rest of the 16 respondents (14.55%) disagreed and 18 respondents (16.36%) were neither agreed nor disagreed with the concept that DAM is a powerful tool.

7. Findings :

The findings of the study are detailed as follows:

- As per the rank list of the BARC report, ST was the highest viewing television channel in India. AT was the highest viewing Hindi news channel and DDI is the highest viewing English news channel. Among these 20 television libraries, ST is the oldest one, established in 1991.

- Nineteen television libraries had already started the library automation process for digital asset management of their libraries. Only STB has not begun the library automation process for their library functioning.

- AV files, photos, and images were the resources available in all television libraries (100%) and they (100%) provided reference service and watermarked footage in CD or DVD format.

- Eight television libraries (40%) had automatic ingestion in workflow and in fourteen television libraries (70%) raw footage editing was included in the workflow. Metadata tagging followed in 13 television libraries (65%) and the central cataloguing process also had in thirteen libraries. All television libraries (100%) had watermarking and archiving for repurpose use facilities in DAM workflow.

- MPEG 7 was the maximum used (95%) video content format in nineteen television libraries. MPEG 21 was used in twelve television libraries (60%). Video format had in 7 television libraries. Times Now and Zee Anmol only these two television libraries used IPTC format for video content.

- The online backup process was followed by 55% of television libraries and 17 television libraries (85%) took the offline backup. 8 Television libraries (40%) used to take both online and offline backup.

- Among the hundred ten respondents, 52 respondents (47.27%) were agreed and 24 respondents (21.82%) were strongly agreed that DAM is a powerful tool for library functioning. The rest of the 16 respondents (14.55%) disagreed and 18 respondents (16.36%) respondents were neither agreed nor disagreed with the concept that DAM is a powerful tool.

8. Conclusion :

This study reveals that DAM is the most powerful tool for television libraries and most of them had already completed automation and some had the plan to complete library automation. It can be said that most of the management of television libraries in India are not interested to procure physical documents rather they emphasise built digital collections and wanted to manage these collections with the help of the Digital Asset Management system. As data security is the most important part of the television industry, DAM of all television libraries followed encryption or watermarking. For the prevention of data loss, regular backup of the online and offline backup process are essential. It is found that translation services are not given by all television libraries, it could be started especially in television channel of regional language. Metadata standards are not followed in most of the DAM of television libraries in India. But maintain standardisation of metadata is very much required for automatic ingestion and cataloguing in DAM which will help manual metadata entry and curation effort and save the time for quick workflow in television libraries in India.

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