

NEWSPAPER ARCHIVES – A KNOWLEDGE ASSET

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ABSTRACT

This paper deals with Newspaper Content as a source of knowledge and how Times Archives of the Times Group has converted the 166-year span of socio-political content of “The Times of India” and the 43 year economic and business barometer “The Economic Times” into an easily accessible Archive. The value of this Archive as a Knowledge Asset lies in its potential of being recalled, researched, reused and re-expressed by the various ventures of the Group. This paper describes the process of Microfilm Archiving and Digital Archiving of a Newspaper. The advantages and disadvantages of both have been discussed.

1. INTRODUCTION

In this 21st century ‘New Knowledge - Based economy’, it stands to reason that knowledge is the most important asset that companies and organizations own. For a media company like The Times Group, which is creating content by the day in various formats – Print editions, Internet, Radio and Television, capturing this ocean of potential knowledge is a challenge and a necessity. Times Archives has preserved this Knowledge Asset of the Print editions as **Microfilm Archives** and **Digital Archives**. The former as the traditional best practice for newspaper preservation and the latter as the technology driven solution for access and dissemination

2. NEWSPAPER CONTENT AS A SOURCE OF KNOWLEDGE

Newspapers offer a level of currency, breadth and comprehensiveness unequalled by any other research medium, which explains why libraries of all descriptions consider them to be an essential acquisition. In research, knowing the background to an issue is as important as the latest developments. Major issues can take years to unfold and witnessing the events leading up to a major story provides the context you need to gain a truly objective and informed view.

Newspapers are fundamental sources of current information on contemporary issues and are essential for building current awareness and keeping society at large, well informed. Newspapers are also fundamental for teaching and research in journalism, the social sciences, management, arts and education. Newspapers contain humongous information in the form of articles, features, profiles, case studies, market & industry reports, corporate indices, developments in science & technology and a whole gamut of sociological, economic, political developments in and around the world.

3. NEWSPAPER ARCHIVES AS A KNOWLEDGE ASSET

Newspapers are seen to be of ephemeral value as most of us read and trash it. However, when newspaper content/information is attributed with the value of **recall, research, re-use or re-expression** over and over again it becomes an asset. The explicit and implicit capability of this newspaper archival asset to add, to augment, to create, to impart knowledge to an individual, organization, field, faculty, community or society at large makes Newspaper Archives a Knowledge Asset.

3.1 The instant **recall** value of past events when a new one occur say a fire, earthquake, floods, plague, a political coup etc. is not available in any other knowledge resource. Not just chronology of past occurrences (commonly seen boxed matter with the new article) but also an insight into post disaster handling, rehabilitation, organizations involved and so many related facts & figures.

3.2 The usefulness and scope of a Newspaper Archive for **research** is limitless. As newspapers chronicle events as they unfold – no historical study is complete without researching a Newspaper Archive. Newspaper Archive is primary literature. Researching say five decades of matrimonial advertisements can be an eye opener on

how social mindset on marriage has changed over the years. The same research could be a case study on how classified advertisements have evolved.

Corporates tracing their growth over the years through newspaper articles and also corporate and product advertisements find an unparalleled mine of information in Newspaper Archives. This research methodology works as much in tracking the roots and compiling history of PSUs, Banks, institutions, political and non political bodies/associations. The list is endless.

Having chronicled 166 years of development, news and newsmakers, views and counter views the Newspaper Archives of The Times of India is a Knowledge Asset and authoritative tome on the growth of our nation. For economic development, money & banking, policies & trends, business & industry, exchange & commodity rates, share prices & myriad related information, The Economic Times and its archive of 43 years play a stellar role time and again.

3.3 Issues like India's independence movement, riots, partition, assassinations, wars are researched repeatedly and **reused** in books and publications, reprinting the coverage. Compilation of popular columns in book form, like the "Speaking Tree" and "Sacred Space" from The Times of India or "ET in the Classroom" are some examples of reuse.

3.4 Content from Newspaper Archives are accessed extensively for "Personalities" in today's language "Newsmakers". Articles on and sometimes by the Personality, interviews, controversies, accolades, anecdotes, relationships and so on. The information finds **re-expression** in Cinema, TV programmes, Radio commentary, Music albums and of course Biographical works.

4. PRESERVATION AND ACCESS TO NEWSPAPER ARCHIVES

4.1 Newspapers on Microfilms:

For decades microfilm has been the only way to store and preserve newspaper collections around the world. The three deterrents to physical preservation of newspapers viz. non durability factor, large unwieldy size and huge storage space could all be over come with microfilming. The first newspaper to be microfilmed was the London Evening News, filmed in 1853 to demonstrate the viability of microfilming techniques. As early as the 1930's microphotography was recommended as a means of preserving the information available in newspapers, however, the life-

expectancy of film at the time was less than a generation. Today it is claimed that microfilms can last for 500 years.

4.2 Newspaper Archives on Microfilms at Times Archives:

The Times Group is the only media house in India that has an in-house microfilm production set up. Installed in 1973 we have been preserving our publications on microfilm since then. Creating Microfilm Archives of our publications has met the dual purpose of preservation and access. We have microfilms of almost all our major publications viz. The Times of India, The Economic Times, Navbharat Times, Maharashtra Times, The Independent, The Illustrated Weekly of India, Femina, Science Today, Dharmayug and Dinman. Microfilm is an important archive as it is the exact replica of the original. In combination with a searchable index this Microfilm Archive is an immensely valuable knowledge resource.

4.3 The Microfilming process at Times Archives:

Microfilming is a technical photographic field and prefilming and postfilming processes are complex. Microfilms at Times Archives are on silver halide unperforated polyester base films and are filmed in accordance with the industry standards specified by the American National Standard (ANSI) and the International Standards Organization (ISO).

Microfilm production needs (a) raw material – Microfilm rolls and chemicals (b) Microfilm equipments – Microfilm Cameras, Processor, Duplicator, Densitometer and Microfilm Reader-Printer. Raw material consists of Negative rolls which are of 100 ft. length and can accommodate one month's newspapers, Positive rolls are of 1000 ft length which can accommodate ten months newspapers (100 ft. for a month) and chemicals. Equipments required are 35mm camera for exposing newspapers (A0 size) and 16mm camera for magazines (A3 size). Processor is required for processing the exposed roll into a Master Negative and the Duplicator to make a Master Positive from the Master Negative roll. A Microfilm Reader is required to enlarge the highly reduced images on the positive rolls. Microfilm Printer for printing pages as required. Microfilming process is divided into four parts (1) Selection and identification of documents i.e. the preparatory work (2) Exposing (3) Processing and (4) Duplicating.

4.3A Preparatory work:

Documents are selected keeping in mind their state, serial order, contrast and sharpness. Camera is kept ready and ensured that it is free of dust, dirt, finger prints etc. as any speck present will show on the film. The lowest reduction possible at about minimum 14x and maximum 21x is taken as the case may be. Document to be microfilmed is illuminated uniformly from corners to the center. Even illumination is an important factor as this ensures perfect readability on the microfilm positive.

4.3B Exposing:

For exposing, the documents are kept absolutely flat and the focus is adjusted for all reductions. If documents do not remain flat, a glass plate is used, the thickness of which is not more than one tenth inch. Initially a test strip is made to arrive at the correct reading of the exposure meter. Test strip readings start from -5 and increased every ½ division. After it reaches 0 it is then taken further to the + side up to 5. This is necessary to take care of newspapers of different colours. After the processing of the test strip, its density is measured. If the density is correct the exposure meter is set for that particular reading. After successful testing the film is loaded and the documents exposed in serial order. Once the roll is over, it is wound and removed. Loading and unloading is done in total darkness. Any light within 6 ft, the film is wasted

4.3C Processing:

For Processing a Kodak Prostar Processor is used. Each time a fresh set of chemicals (Developer and Fixer) are used. Not more than six rolls are processed in one batch of chemicals. Water temperature is maintained at 90 degrees Fahrenheit. It is necessary to ensure steady water flow, water temp. & hot air supply. Special attention is paid to cleaning of the Processor parts as any residue left on it will ruin the film. After the film is processed and dried a Master Negative is ready and its density is measured on the Densitometer. Specified density on dark area should be 1.11 and on clear area it should be .04. For correct density, lights are adjusted at the exposing level or at the production level wherein chemicals are used with slight variations. Underexposed or under processed films will not get the prescribed density of 1.11, in turn the sharpness and contrast of the microfilms will suffer.

4.3D Duplicating:

Duplicating is done on Itek Duplicator. Duplicating is basically done on the basis of three parameters viz speed, slit and light, all of which have to be carefully fine tuned for perfect result. The duplicating process creates the Master Positive. It's the Master Positive that is used for retrieval using the Microfilm Reader device.

4.4 Newspaper Archives - Digital at Times Archives:

Digitization of Newspaper Archives was taken up in early 1990's at Times Archives. The first system was Times Archival System (TAS) and in 2004 E-paper of our flagship publication "The Times of India" was launched.

4.4A Times Archival System:

Launched in May 1993, this system deployed from Mumbai & Delhi is a database of the full text & graphics of The Times of India {Mumbai & Delhi editions}, The Economic Times {Mumbai & Delhi editions}, Bombay Times & Delhi Times. Developed in-house this client server application software is accessible to editorial colleagues across all branches of The Times Group on windows platform using, Oracle 7.34 database on Novel netware 4.11 & Forms 4.5. Key functionality includes full text search with Boolean operators, publication/date search, copying & printing.

4.4B Conversion of Microfilm to Digital format:

Whilst The Times of India and The Economic Times was captured and archived digitally since 1993 the years prior to that are being converted to digital format from the Microfilm Archives. The Microfilm Scanner is an equipment which enables scanning of microfilms and conversion frame by frame to tif or jpeg files. With de-skewing and de-speckling techniques these digital images are enhanceable. Optical Character Recognition (OCR) technology when applied can further add to the efficiency of the system, with full text retrieval facility.

4.4C Epaper:

Launched on Jan 15, 2004 this is the online availability of the print edition of The Times of India and its city supplements published from Ahmedabad, Bangalore, Delhi, Hyderabad, Kolkata, Lucknow, Mumbai & Pune. Unlike the net edition, which is quite different from the print edition in terms of content & format, the Epaper retains the look and feel of the real home delivered daily. An International Newspaper Archiving software has been customized as per our requirements. The entire paper is

searchable, including all stories, photographs and advertisements. It is possible to search and browse a paper by date and within by page or section. A simple search by key word/s or advance search with a combination of features like publication, date range, content (article, picture, and advertisements) can be seen in context and layout of the page it appeared in. This adds immense value to this format of Newspaper Archives as a Knowledge Asset. All issues from Jan 1, 2004 till date, are available online on <http://epaperdaily.timesofindia.com> A very recent addition is The Economic Times (8 editions) is also accessible on the same URL.

5 MICROFILM ARCHIVES V/S DIGITAL ARCHIVES:

Are Digital Archives superior to Microfilm Archives or vice versa? A difficult question to answer with no single or simple answer. Technology is never the answer, it is only a tool and the privilege lies in human hands to select and use his tools wisely for his own optimum benefit. In this world of digital technology one cannot ignore the fact that technology is the future but one has to be judicious on long term decision like Archiving. The pros and cons of Microfilm Archiving over Digital Archiving or vice versa can be judged on three aspects i.e. creation, maintenance and usage.

5.1 Creation:

Microfilm Archives: Microfilm Production set up is not easy to create. Expertise and heavy investment is called for in terms of equipment, environment and space. Whilst purchase of equipments like Cameras, Processing equipments, Retrieval hardware like Reader/Printer are one time investments but operational costs, raw material and overheads, manpower etc. are recurrent.

Digital Archives: Appropriate information technology infrastructure and expertise is a prerequisite besides well designed and robust IT systems. With declining costs of IT infrastructure startup costs of implementation of Digital initiatives has also reduced. However, with advancement in technology the Digital Archiving process, & hence the infrastructure also undergoes change resulting in recurring investments.

Maintenance:

Microfilm Archives: Microfilm is an accurate representation of the original record but is subject to degradation due to age, handling and environmental conditions and needs careful protection to ensure its long-term survival. Care should be taken in handling the films, reader plates and drives should be kept clean and in good operat-

ing condition. The Master Negatives should be safely stored in a vault which is environmentally controlled, fire and heat resistant area and should be used only in extreme circumstances. The vaults must maintain a constant temperature of 18-20⁰ C and relative humidity of 35-40% with daily fluctuation of not more than 5%. Cans, boxes, and reels of film should also be inspected for evidence of rust, corrosion and other deterioration. Heat and humidity can weaken the emulsion and also promote mold growth. If some films are found to be damaged or degraded they give out a vinegar like smell, such rolls should be replaced immediately with the new ones or else the degradation/damage spreads rapidly to other rolls as well. If maintained under ideal conditions the Life Expectancy of microfilms is said to be 500 years. **File integrity** is another major benefit to be realized from microfilm. Once a file has been filmed, its constituent records are locked in place in the order and condition in which they were sent to the camera. Alteration of the file is difficult and the retention of a master film copy at an offsite location acts as a backup ensuring that any tampering will be detected.

Digital Archives: Long-term maintenance of the digital images and associated metadata is of prime importance. This is a relatively new field and **technology obsolescence** is a major handicap for Digital Archives. Repeated investments on reformatting is almost always one of the most expensive options, compared to providing the proper storage for originals to extend the usable life. Information that is stored digitally is much more vulnerable to corruption, hard drives prone to crashes, loss of data due to the failure of a portable drive and data loss caused by human error. Digital Archives are system dependent and its integrity is at stake. Digital data can be easily manipulated.

5.3 Usage:

Microfilm Archives: Ease and speed of retrieval of microfilmed information is made possible by the reduction in size from the original source documents. Miniaturized information can easily be stored in the working office and can be accessed in minutes rather than hours needed for paper stored in file rooms or stored off site. User resistance is often one of the strongest factors acting against the success of microfilms. The texture, look and feel of holding a hard copy of the newspaper just cannot match the black & white look of the microfilms. Retrieval is equipment

dependent hence restricted to where the Microfilm Reader device is available. Sequential access is a limitation even if an index is available. Constant use of Microfilm Positives scratches the rolls badly and reduces the quality of the films. Long hours at the Microfilm Reader can cause eye strain and fatigue to the user.

Digital Archives: Unlike Microfilms Digital Archives can be searched instantly, rendering them more accessible but the technology is so new that nobody can be sure that 20 years from now files won't be degraded, like some CDs from the 1980s have. But the value of Digital Archives does not decrease with its use, secondly one can store digital files just about on any mass storage device and its high mobility allows almost instant movement by use of modern transmission methods like e-mail/ Intranet/Internet. Digital images are reusable as is or with only slight modification, saving considerable time otherwise spent in re-creating.

6 CONCLUSION

Technology is only as good as the use it is put to. From the above discussion one can not compartmentalize whether Microfilm Archives are best suited over Digital Archives or vice versa.

Though Digital Archives opens archived material to worldwide access, it may not stand the test of time. Technology obsolescence is a reality and constant up-gradation a necessity. Microfilm Archives are reliable, long-term preservation and retrieval system. In ideal conditions its life expectancy is 500 years, 100 times that of Digital Archives.

Digital documents can be tampered or get corrupted whereas Microfilm documents are more or less sacrosanct.

It would be ideal for organizations/libraries to adopt both forms of archiving should budgets permit. Microfilm Archives as the long term, safe and secure master true copy of the original and Digital Archives for ease of access, retrieval, dissemination, reuse and re-expression.

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