CHAPTER 3
MULTIMEDIA LIBRARY / INFORMATION CENTRE:
ORGANIZATION AND MANAGEMENT
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3.1 Introduction:

Multimedia libraries and information centres in the context of present study are concerned with information sources in diverse media their acquisition, processing, storage, organization and service to the users. These libraries hold the collections of many kinds of documents and generally organize them under one system of information. The professional developments promise to solve a number of problems associated with their use and maintenance. The organization of a well-equipped multimedia library and information centre is essential to serve the users if the professional developments are to be exploited to the full. In this respect, multi-media library and Information centre can act as a laboratory, which can make in-house and commercially available information sources to the users.

The preservation of library materials dates back to the origin of the written records, whether it is in the form of clay tablets or in the form of Palm leaves or birch bark or the ubiquitous medium i.e., paper. Over the past few years, the rapid advancement of technology affected the preparation, organization, storage and retrieval of information, and has lead to the development of variety of information-carrying formats. The present Information society is replete with various new information media such as audio and videotapes or computer and optical disks, all of which are constantly changing forms.

3.1.1 Need of Multimedia in Libraries:

The literature has been growing at an exponential rate causing problems of space for storage as well as utilization of vast amount of information. A student, researcher, teacher or scientist has to spend most of his/her valuable time in searching and reading literature for information on desired subject.

As libraries and information centres are gradually moving towards the multimedia age, the whole question of the preservation of print and non-print media is becoming crucial for the library and information managers. The
deterioration of any media begins at the creation stage only. The life of the various library materials can be extended not only through proper methods of manufacturing but also by improving conditions of storage and use.

Libraries today have in their collections in ever growing variety of formats: films, film strips, microfilms, microfiches, optical disks, sound recordings, magnetic media, and so on. These are considered as technological alternative to print-on-paper. Yet, a stage can be visualized where these alternatives will ever totally replace paper, in any foreseeable future. In fact, in spite of all these technological innovations, the rate of growth of paper based reading materials in our library collections, all over the world, has been accelerating at the tremendous pace, and one of the basic parameters of assessing the level of progress of a country is still accepted to be the level of its consumption of paper.

The libraries can no longer remain unaffected and continue to restrict their scope of activities centering on only the traditional paper-based media. Consequently, today’s libraries are having steadily growing variety of materials, other than paper. These are generally accepted by many Libraries and have been part and parcel of academic libraries in particular. Hence such libraries in tradition were called by a generic term multimedia libraries or information centres.

In the earlier days, however, ‘Multimedia’ meant those media, which were all paper-based, but issued in formats other than of a conventional book, such as, periodicals, reports, pamphlets, newspaper clipping, maps, atlases and so on. Currently used generic term multimedia includes two broad categories: print and non-print. The non print media, as distinct from print media, are those on which printed words as visuals are not directly represented, such as magnetic tapes, digital recording etc., and media like films, film-strips, photographs, and slides etc., which bear the direct impression’s of words or visuals.
In this chapter a descriptive account of theoretical basis of an organizational framework for a multimedia library and information centre is discussed.

According to The Webster’s New World Dictionary and Thesaurus an Organization is;

- the act or process of organizing or of being organized;
- characterized by complete conformity to the standards and requirements of an organization;
- the condition or manner of being organized;
- an organizing or being organized;
- the manner of being organized; organic structure;
- any unified, consolidated group of elements; systematized whole.

The organization in the context of society is one that is capable of satisfying the needs and social well being of its citizen. A library is an organization; in this context it has a goal and role in the society.

Library is an established organization; the society passes that device along future generation as an integral part of its tradition and culture. This has been true in the context of library as an organization of a society as a tradition has been past known to the society from generation to generation. Thus a library, which was basically, a book oriented and which has been passed on by society as a useful organization to serve the contemporary generation. The changing world of today the traditional library however finds itself unable to completely fulfill its historical role that has been a huge knowledge and information deluge due to the generation of new knowledge resulting into a variety of the diversified materials that traditional book library have to give away to the new materials and a book
library turning into a new multimedia based library. A unique kind of library
development has been contemporarily observed, which can make the renewed
needs of the society through the use of diversified materials, techniques and the
contemporary technology at the heart of this role of course is the transformation
of a multimedia library.

The multimedia library is the one, which represents variety of diversified
collection handling and is so involved with technological innovations that can
also be regarded as technological system, which utilizes new techniques and
procedures.

In this context it is also apt to quote the changing role of the libraries in
this transformation from traditional book library to multimedia library. “The
librarian or multimedia manager or media specialist who is in charge of a academic
centre or as a administrator referred to as a director or by some other name or
title or designation in charge of a college or university library is having basic
responsibility to develop and maintain the multimedia collection side by side
along with the traditional collection.

A theoretical approach to organization and management of a traditional
collection along with multimedia collection in library and information centre is
deliberated in this chapter.

3.1.2 Multimedia Library as a System:

The library as a system is becoming ever more complex. The individual
library building is becoming more diversified with regard to materials and services.
Libraries are involved in a wide range of media, and the librarian needs to be
aware of the various media categories. No longer can it suffice for materials to be
classified simply as print or non-print or mediated or non mediated. Mediated as
opposed to non mediated indicates only whether or not it is necessary to have
some devices or piece of equipment to gain access to information e.g. a book does not require any device, whereas a film requires a projection equipment. But with the proliferation of information available today it could be well be that some information items are available in both mediated and non-mediated forms. A book can be available in a bound copy, or it can be available on microfilm or on a CD-ROM. It is still a book, however; but in the latter form it requires the use of a microfilm reader in order to be read and a computer with a disk drive.

An illustrative material like art print would be either original work of art (a painting) or a facsimile. It can be either framed or unframed. Some libraries integrate art prints into the picture film collection, but if the art print collection is of any substantive size, it should be regarded as a specific category.

3.1.3 Goals of Multimedia Library and its Functions

A multimedia Library according to different author's consists of the following Systems. The operations involved of each one of these subsystems is deliberated in this chapter. A system by definition is an assemblage of subsystems, which are interdependent and interrelated working towards achieving the goals and objectives of the organization. Here the organization implied is the multimedia library and information centre; therefore there is a necessary to identify the purpose, goals and functions of the Multimedia library and information centre.

A system approach is adopted to discuss various issues relating to the organization and management of a multimedia library. The idea of system approach to library and information science has been in practice since 1950's. The library in fact is considered as a system consisting at several subsystems of operational resources and so on. In this study we are more considered with "system of resources", rather than the "operations".
Libraries have been service institutions. Effectiveness and satisfaction is rather difficult to measure, to provide different kinds of services library is deal with both tangible and intangible media. In this study the tangible media considered are various material resources representing multimedia formats. The intangible media considered are the Communication media. This chapter deliberates on the organization and the management of both tangible and intangible media and also the various kinds of operations involved in developing an organizational framework of a multimedia library and information centre.

Hicks (WB) and Tillin (AM) have provided excellent approaches for managing Multimedia libraries. This study though not in entirety but in large measure has adopted the philosophical, conceptual ideas discussed in their book. The further expansion is based on the thesis proposed by the two authors in their book. The systems approach deals with analysis of the system evolving the sub systems and their elements, here the sub systems evolved are:

(i) System of materials;

(ii) System of personnel or human resource;

(iii) System of users and services.

In the following paragraphs the various systems are dealt in brief.

(i) System of Materials:

A system is an organized utility so designed that a predetermined purpose is attained through the interdependent regular interaction and integrated functioning of its many parts. Generally the library on multimedia collection comprising both tradition and new media they are:
Audio materials;
Visual materials;
Audio-visual materials, films;
Illustrative materials;
Microforms;
Optical media;
Internet;
Teleconferencing / Video conferencing / Teletext / Video text;
Television and Radio;
Human experts and Institutional resources.

(ii) System of Personnel or Human resources.

Management of any kind can only function when it has personnel to carry out its organizational objectives. This is especially true of personnel resources. Therefore the staff of the multimedia library must be effective to contribute to the success by developing a staff whose tasks are fulfilled in an economical and effective way. As from the point of view of the systems approach it is imperative to remember that adequately qualified personnel who can handle a multimedia is an important aspect. It is also important that a multimedia library manager has the responsibility of meeting the libraries need for personnel with people who have the skill and experience to do the job. The manager must be concerned with setting up the processes necessary to utilize these skills.
The personnel function is also an important aspect of the total management of the multimedia library because the manager has the responsibility for developing co-ordination among many people.

Personnel management is an interdependent, decision-making subsystem of the larger, multimedia library organization. It is concerned primarily with increasing the individual effectiveness of the employees of the library.

(iii) System of Users and Services.

One of the essential pre-requisites in the planning of libraries is to study the information needs of actual and potential users. This would involve collection of information on institutional projects and programmes as well as individual users' interests and needs. Such a study would facilitate decision-making in relation to the type of collection to be built and the information services to be designed to meet with users' needs individually and collectively. The next step would be to identify more specifically the potential user groups. This may be done on the basis of interviews, questionnaires, study of organizational and functional charts, etc.

- Can the user group be identified? Is it a distinct, visible, homogeneous group?
- Can the identified group be benefited from the information services?
- What are the user-related constraints on the services?

The term ‘User’ has been defined in a number of different ways in connection with libraries. Here it is being used to indicate a person using multimedia materials, whether or not in a library context. ‘The term ‘non-user’ therefore indicates somebody who does not use Multimedia material (MM) rather than some body who does make use of libraries. In contrast, the term ‘Client’ relates to somebody who actually makes some use of Multimedia within a library.
context: whereas a 'non-client' is any body who uses Multimedia materials but has no knowledge of or desire to use them in a library context.

For example a Teacher who collects a video-recorded tape on 'Ecology' from his library collection and shows it in a class room is a user of Multimedia, while one who lectures on ecology in a class room is described as a non-user of Multimedia materials. If however, he were to go to the library and barrow a video recording on ecology, he would be a client whereas if he would be called a 'non-client'.

The multimedia materials not just the vehicles for artistic experience but also a means of conveying ideas, information learning and instruction. It is important to realize that the individual user has an immense range of information sources available. There is enormous wastage of resources due to non-use of all types of library resource. This presents a great challenge. Educating the user is the proper solution to avoid the unnecessary wastage of materials; by using Multimedia materials one can improves the quality of use. Education is never ending process. Library use skills are the important and essential pat of the education, which helps greater deal for its continuity. To know how to use library and search information is an essential part of "Education for life". Systematic information management skills and education for use would introduce the uses to the right method that would enable them for the rest of their lives to use libraries more effectively in education, research and development.

Users of multimedia may be divided into two groups which although not completely distinct, point to differing needs. The Producer: This type of user is one who, in creating a document in book or multimedia format, has to extract previously recorded information form one or more forms of multimedia material. For example, painting, news film, radio interviews and still photographs.
In summary, the producer is a user who finds information in a variety of formats be it a book or multimedia material and uses it to create something new. The private user takes a finished product in order to extract information from it. He may accept or reject that information but makes no attempt to create his own document. Thus a student who plays a sound cassettes of birds of the seashore as a result gains knowledge of that subject but does not take pats of the recording and create his or her own document.

In information system user is an important component. But our librarians neglected this aspect and information managers for a long time assesses to relevant information are highly essential particularly in research and development sectors. Right information to the right user can pave away to new directions to research and development it is imperative that to achieve this objective one should understand the library user, how they interact with the system, their pattern of search ad their pertinent information requirements.

The multimedia technology is emerged as a helping hand for the information seekers from various branches of Universe of knowledge. The proper utilization and use of multimedia in the library will replace the classroom as a place of learning, helping the readers to educate themselves, through the medium of its vast resources. Multimedia based education is clearly pressing a need of the day and this fact is increasingly being recognized in almost all parts of globe. Enormous growth of interdisciplinary subjects, information explosion, the changing concept of library and librarianship.... Etc., are some of the factors which have made the library system a complex organism, all the more underscoring the need for Multimedia based education. The major objective of a library or information system is to satisfy by the specific information needs of user reading information, which should be satisfied by the specific information needed by him. There are tow types of needs. One relates to the kind of massage in term of object, currency etc. The other relatives to means of supplying them. Information needs of a user
depend on a number of factors such as work activity, discipline and availability of facilities. Information needs can be primarily divided into two types viz. current awareness and adhoc. In the current awareness mode the user requires current information in their field of specialization or interest whereas in the adhoc type it is needed to satisfy a specific purpose. There are two types of information need exist in any organization. They are information about organization itself and information about external environment in which the organization is to function.

Again referring back to Hicks and tillin the goals of the multimedia library expressed as functions are as below:

(a) Information function;
(b) Educational function;
(c) Cultural function;
(d) Recreational function.

In the context of academic library the Information and educational functions are more relevant and important to the academic community and the user, thereby however the cultural and recreational functions are not totally ignored but of less important to academic libraries where as they can be considered as more important to the public libraries. In the following paragraphs the Information and educational functions are dealt in brief.

I Informational Function:

(A) The multimedia library is intended to achieve the following:
(a) Communication of ideas
(b) Confidence and judgement in the handling of information
(c) Utilization of available information to achieve specific ends, change economic, political, and social life conditions.
(d) Assist in solving problems of society.

(B) The process by which the multimedia library accomplishes these goals is best exemplified by the role of the library as:

(1) A centre for reliable information

(2) A service of rapid access, retrieval and transfer of information.

(3) A focus from which to relate human knowledge to human needs

(4) A focal centre which emphasizes the importance of information and knowledge toward resolution of human needs.

II Educational Function:

(A) The multimedia library seeks to implement the following educational goals:

(a) To provide for continuous, life long education

(b) To create and sustain broad academic interests, creativity and independent intellectual activity, and to support intellectual freedom.

(c) To encourage perceptual sensitivity and occupational competence.

(d) To promote positive social attitudes and a democratic society.

(B) The processes by which these ends are accomplished by the multimedia library include the following:

(1) The provision of educational opportunities and an atmosphere of learning

(2) Guidance in the selection and use of materials.

(3) Training in perceptual and research skills.
The promotion of intellectual freedom as related to the use and meaning of knowledge and the problems of human survival, emotional balance, and social needs.

3.2 Organizational Framework for Multimedia Resources

In this chapter the theoretical basis of the Organizational framework for a multimedia library deliberated in number of sources is examined. This will also useful in examining pragmatically whether such an organizational framework exists in the academic libraries of which the data is collected through the questioner. If the two exercises; the theoretical approach to organizational framework and the existing structure and functions have shown substantial differences then this study will attempt to make a suggestion as to what kind of organization framework the academic libraries understudy need to possess. This will be entirely on the conditions and the situations prevailing on the three systems; System of Materials, System of Manpower and System of User.

Organizational change is departure from the status quo or from the conventional trends. Organizational change for libraries could signify adoption of a new devices and information systems, starting new services for their clients, restructuring the organization to create new positions, redefining the purpose and mission of the organization etc. The changes which take place inside the organization such as introducing computers and machines to automate existing operations, changing the incentive and promotion policies, recruiting technologically skilled staffs, introducing benchmark standards in libraries for total quality management are called intraorganizational changes. The fast changing nature of today's organizational environment is pre-dominantly the consequences of two factors:
1. Increased effectiveness of information technology, which encompasses both communication technology as well as computing technology.

2. The increased effectiveness of transportation technology.

3.2.1 **Organisational Functions: (Tangible and Intangible)**

Selection, Acquisition, Cataloguing, Physical processing, and shelving or storage is the central processes and functions, which comprise the management of multimedia resources. The task of management is to organize the various materials so they operate together with maximum effectiveness and efficiency and minimum cost to serve the users needs. Library collection no longer consists of only printed materials such as books, magazines, newspapers, pamphlets, reports, maps etc but with the advent of information technology, the new and repackaged published information and new formats of Multimedia such as Video Disks, CD-ROM’s and OPAC’s replacing traditional card catalogues, allowing access to the holdings of libraries by interested users in remote access. Computer software programs such as word processing, databases creation and spreadsheets with dot matrix and laser printers helped in creating new information resource within and between libraries.

The ultimate goal of selection is to choose from among the many available resources of knowledge those that best serve the needs of the library’s community. It is evident that as long as the library exists the practice of selection must continue and that, to fulfill its goal, selection must cope with change both in materials and in patron’s needs.

A material selection policy that is clearly stated and officially adopted is essential in the selection process. It establishes the basic principles and limits of selection, and provides policies, procedures, and criteria that are used as a guide in selection. It seems axiomatic to state that in order to select resources of
knowledge for the multimedia library a variety of resources from which to make selection must be provided.

A work may be available in several different media; as a book, a sound recording, a filmstrip, a motion picture, or a set of slides. Which of these formats, or combination of formats, will be most appropriate for the present and potential users is that principal factor that determines what type of materials is procured for evaluation.

3.2.2 Selection Of Multimedia Resources:

The major concerns in making the proper or best selection of information in a particular medium can be ascertained by making the following inquiries:

(i) is the information available is in a suitable and presented in the best medium;

(ii) is the information in a medium that is best for the patron(s) who will be using it;

(iii) are facilities available, equipped, and needed to make the information accessible?

Determining which medium is best for a particular type of information requires that the characteristics of the information be carefully examined. An obvious example would be music, which is best presented in an audio form, audio tape or disc, in preference to motion picture or videotape formats. There are situations where different media have less subtle differences, a speech by a famous person be either printed form or audio form, the decision here is on the knowledge and not on preference. The most beneficial method of making a determination would be to identify all the media formats applicable to a particular piece of information, list them in order of how well they present the information and find
it indeed the information is available in the forms identified. This task requires knowledge of the characteristics of various communication media.

Having determined the best media and knowing their availability, the next step is to identify the various ways in which the patron(s) will most logically be using the information. It could be for independent use, small or large group use, cultural enrichment, entertainment, supplementary information, reference, research, or extensive study; the information may be used either inside or outside the library, the information, by virtue of format, could be of short – or long-term value (e.g., perhaps a film would be viewed only once a by a particular patron whereas a book might be consulted on repeated occasions).

The final consideration in selecting a medium would be to examine how accessible it is to the patron. The library has a facility as well as a policy of how the facility is to be used that provides parameters to what media can be used and to what extent.

The three characteristics – Suitability of medium, patron acceptance and utilization, and accessibility – are the best consideration individually, as a means of determining which medium should ultimately be selected.

(a) Multimedia materials Selection Tools:

A comprehensive source listing for all the variety of Multimedia Materials at one place may not be found. So one has to lay hands on various tools, for each kind of material. There are printed, microform and computerized sources to aid browsing and selection of materials for acquiring to the library. The growth of multimedia materials has been very vast and as such even the Online Information Services have created special tools, like catalogues and bibliographies on Audio-Visual materials, and the best example in this context in the AVLINE of Medline.
The National Educational Resources Information Service has a database of teaching and learning resources as well as curriculum information and case studies. These are very useful to the academic libraries. The services of this are available to teachers and researchers on their curricular topics. The OCLC computer catalogue has access to over seven million records, which include a high percentage of multimedia materials. However majority of them are of USA origin.

Particular reference should be made to the printed sources. There are a number of bibliographic sources of which a comprehensive list is given at the end of present chapter. It is a matter of concerned that most of these bibliographic control tools for the multimedia materials are relating to western sources. The List is given under different categories of materials and also different types of sources. For example; there are listings on Audio-visual materials, non-book media, there are catalogues of equipments, museum and art galleries objects. The sources include, Bibliographies, Directories, and Yearbooks, Bulletins of Libraries and library associations and Periodicals. The lists include specially for such materials as; Video-recordings, Sound recordings, Realia and Specimens, CD-ROM, Videodiscs and so on. There comprehensive directories and catalogues of Microforms in large number as the media was very popular in 1970s and 1980s.

Particular reference should be made to the published sources. The major bibliographic sources are:


iv. Audiovisual EMAP, MacLaren, 1972- is published monthly. It is a valuable source for new developments in equipment and Multimedia use in industry and commerce. It's an Annual Directory, lists equipment manufacturers, production services and Multimedia publishers.

Directories and Yearbooks are invaluable sources for technical details and addresses of manufacturers, publishers and specialists, and for finding out about current work in the Multimedia field. Museums and art galleries are prolific publishers of Multimedia and there are two important guides:

i. M. Roulstone’s the bibliography of museums and art gallery publications and audiovisual aids (1980) in Great Britain and Ireland. It contains more than 15,000 publications and audiovisual aids from over 1,000 museums and galleries. Multimedia items in this catalogue include posters, slides, films, discs, tapes, models and reproductions.


(b) For Paper based Multimedia:

Paper as medium for Multimedia materials includes a wide range of forms—wall charts, portfolios, art reproductions, games, programmed learning materials etc. There is no comprehensive source for the quest of this material. Some of them are:
1. The series produced by M.C. Apple, Illustrations index 1982-86.

2. Lancaster Geography Poster, University of Lancaster which has a large display of material which reflects their name.

3. The Pictorial Charts Educational Trust, Oxford University, London.

The general guides to art reproductions are somewhat out of data. There is also an index of artists, publishers and printers.

ii. A comprehensive source is Art index, H.W.Wilson, 1929-, which includes listings of reproductions in arts periodicals and museum publications.

iii. The National Gallery’s Postcard collection, volume 2 (1989) and Stanley Gibbon’s Postcard catalogue (1986) are useful for this particular format.

There are a number of suppliers of games and simulations some of them are:


ii. The Society for the Advancement of Games and Stimulation in Education and Training, Centre for Extension Studies, University Technology, Loughborough.

Stimulation games for learning, A quarterly periodical, 1971-.

(c) For Sound Recordings:

The bibliographic sources for musical recordings are relatively well organized compared with other Multimedia, although there is no comprehensive retrospective discography for LP records. It is the non-musical recording that presents perhaps the greatest problem. The reference tools published by the Library of Congress, and R.R. Bowker should be consulted.
For the indispensable retrospective listing of recorded music:

1. The World's encyclopaedia of recorded music (WERM) compiled by F.F.Clough and G.J.Cuming. This work covers all electrically recorded music up to 1983.

2. The new Penguin guide to compact discs and cassettes, Penguin, 1988

3. Words on tape: an international guide to the audiocassette market, Meckler, 1989 identifies over 20,000 spoken word sound tapes.

4. Music master by John Humphries, 1974-. This is an all-industry master record catalogue of popular records, tapes and CD audio.

Subject specialist publications and publishers include the following.

1. Argo spoken word, Decca Classics, London offers a wide range of the spoken word, including all the plays of Shakespeare with the Marlowe Dramatic Society.


3. Sussex Tapes Ltd originally published recordings of debates between notable academics, particularly for undergraduates.


Periodicals in sound cassette form: for example

1. Personnel Training Bulletin, Cambridcshire, UK.

Many local radio stations have been active in establishing tape archives, for example 1.BBC Radio Newcastle has a Catalogue of Broadcasted tapes,
2. The gramophone, General Gramophone Publications, 1923- is a monthly periodical which reviews new classical records, CD audio and cassette releases. Its Classical Catalogue comes out quarterly, and lists LP records and tapes currently available.

(d) For Realia / Specimens:

Given tenacity, a scale model of almost anything can be located. Plastic model kits can be purchased from many manufacturers. There are no comprehensive reference sources for suppliers in India, but diligent attention to advertisements in periodicals can prove fruitful. The following publishers are given as examples.

1. Educational and Scientific Plastics Ltd. UK specialize in models of the anatomy, skeleton etc.

2. CL Rexroth Ltd produce sectional engineering model and other Multimedia.

3. Studio Two Educational provides a wide range of Multimedia, but of particular interest are their plastic kits and cardboard replicas of prehistoric animals and Egyptian artifacts.

Some museums also supply models; for example, the British Museum produces amongst many other items.

(e) For Illustrative Materials:

These include photographs, slides, filmstrips, overhead project transparencies and microforms. There are a number of commercial pictures libraries, the finest in the UK probably being:
i. The BBC Hulton Picture Library, which contains over six million photographs, drawing’s, prints etc.

ii. D.N. Bradshaw and C. Hahn’s World Photography sources, Bowker covers over 2,000 collections and indexes them alphabetically, geographically and via subject.

iii. Visual Publications, The Green, Northleach, Cheltenham GL54 3EX.

Major slide library catalogues are

1. Design Council, whose Slide library catalogues are extremely detailed.

2. The Crafts council, London runs a slide library and loan service with over 30,000 35mm colour slides featuring the work of leading crafts people. Catalogue classified by craft are available.

3. The Victoria and Albert Museum’s national Art Slide Library has more than 500,000 slides listed in subject catalogues. The majority of catalogues are available on site only, but there are shorter listings available for borrowers.

Microform materials are covered by Guide to microforms in print. Meckler is a major publisher of bibliographical tools for microform; its catalogue contain over 1,25,000 titles with a companion volume, The Subject Guide to Microform in Print (1989).

Specialist periodicals include, Microform review, January 1972-, a quarterly journal containing reviews and evaluations. The National Centre for Information Media and Technology puts out Information media and technology, a journal of a national information service for the materials and equipment for micrograph and reprography. It contains reviews and micrographics abstracts.
Specialist directories include Microform marketplace (Meckler, 1989), An International directory of micropublishing. It contains a full listing or organization and they are publishing programmes.

(f) For Moving Picture:

The sources for this section have been divided into cine film and video recording. Bibliographic tools in this context are:

i. British Film Institute, BUFC, BCL Centre.


iii. A guide to home videos in the USA is Variety’s complete home video directory by Bowker, which lists more than 25,000 video titles in various subject areas.

(g) For Cine Film:

As far as cine film is concerned, there are numerous film hire libraries, but perhaps the major sources for feature films from the British Film Institute. This lists some 7,000 titles available from the BFI.

Companies which market their own films include

BBC Enterprises. Their film and video output is available for purchase.

Specialist periodicals include

1. Monthly film bulletin by British Film Institute, (1934-), which reviews feature films and shorts
2. Screen digest, Screen Digest Ltd., (1971-) gives 'monthly news, summaries and intelligence' on cine film television and video recording.

(h) For Video- Recordings:

Comprehensive guides to video recordings are available. Many deal only with the entertainment aspect and a more general source is

1. The Video Gallery, which lists new releases back issues under detailed subject headings and includes fiction and non-fiction videos.

2. Educational Media International produces detailed catalogues on a number of subjects, for example education and training, health and safety etc.


4. Berger and Tims, London produce a catalogue of non-fiction videos available for purchase that have been cleared for home viewing rights. It is important to remember that cine film and video recordings are increasingly being listed in the same bibliographical tools and therefore references under cine films should be considered.

Videodiscs are a newer source and bibliographic tools are starting to appear.

1. Sear's Videodiscs: a history and discography. The first general guide is Internationale Bildplatten Katalog, which list some 1,000 titles; it is published by Schule Schone, Germany.

(i) For Optical Systems:

The bibliographic tools for CD audio have also considered under the section relating to sound recordings. The rapid growth in CD-ROM materials has resulted in new bibliographic guides. It is worth noting that the major information reference companies,
1. Whitaker, Bowker and H.W.Wilson, have put their databases—such as Books in Print, Whitaker's British books in print and film literature index—into the format. They also supply customized CD-ROM workstations.

2. Chadwyck-Healey has produced the French and German national bibliographies on CD-ROM. One of the first general guides is a CD-ROM product, that has sections listing CD-ROM products, company information, CD-ROM drives, books, journals, and conferences and exhibitions. It is informational in scope, giving information on 390 products and some 350 companies.

3. N. Akers, CD-ROM interactive video and satellite TV in the school library, LA School Librarians Group. This gives a brief introduction to the hardware and appropriate software. It is aimed at school libraries but it will repay scrutiny by any librarian entering this field.

4. CHEST has listed CD-ROMs those academic librarians and computer centres have shown interest in purchasing.

However, there is still a lack of bibliographic tools and diligent searching through microcomputer periodicals and publishers' catalogue is required.

The publishers include:

1. Silver Platter for such databases as LISA, Audiovisual online, software – CD et.;

2. Multilingual State for Harrap multilingual dictionary database; and

3. UMI for dissertation abstracts, newspaper abstracts etc.
(j) For Video discs:

The bibliographic tools for videodiscs have been considered under film and video but it is important to note that particular tools are not available to trace discs for use in an interactive manner. No general guide has appeared for this form. Certain publishers have published a limited range. For example,

1. Ferranti International have published for the IBM AT ten videodiscs covering basic mathematical concepts and real-life applications. A notable publisher of higher education training videodiscs is the Open University.

2. The major source of information is the National Interactive Centre (NIVC) UK. This maintains a database of research and a listing of interactive videodiscs. The Center's periodical, Interactive update appears bimonthly.

3.2.3 Selection Through Reviews:

The proliferation of materials currently being produced makes an imperative that a policy be established which ensures that, in the time available, selection be made from evaluations of the greatest possible number of materials. The policy for selection through reviews should state the evaluating sources that are acceptable and be kept up-to-date by addition or deletion of sources as warranted by changing conditions.

To build a collection of resources that enables the multimedia library to perform its informational, educational, cultural, and recreational functions successfully requires participation in selection that goes beyond the personnel or the library. Good selection is a many faceted operation that necessitates contributions from those who have knowledge of the whole community, of individuals in the community, of the goals of the institution, or media materials, and of subject content. Such as breadth of subject content. Such a breadth of knowledge and specialized expertise calls for the involvement of persons who
are not directly connected with the library. The manager, therefore, plans the machinery of selection so that these personnel become part of the selection team. One extremely important part of the plans which is often neglected is the provision, where needed of a training program in selection principles, criteria, and methods.

To operate effectively the selection process depends, in addition to materials for evaluation and personnel, on the availability of what may be called the tools of the trade. These include informational tools, equipments, or facilities.

In using informational tools, selection criteria for all types of material, for specific types of materials, and for equipment, are the basic guides for evaluation. They may appear on a standard form as abbreviated statements that are to be checked on a rating scale.

The availability of equipment and facilities can often be the factor that determines what audiovisual materials will be evaluated. Equipment needed to preview all types of media should be furnished and kept in good repair. To give the evaluator greater latitude in time and place for previewing, circulation of equipment that can be easily transported is advisable. A preview room that has adequate outlets, lighting, and darkening facilities is needed for viewing and listening. Space is also required for selection meetings where reviews and discussion can take place without interruption.

3.2.4 The Information:

There are two main categories of information required for each item. Essential information needed to identify the work: author, title, type of material, number of parts and other types of materials included in the work, and publisher/producer. The source of recommendation or request and reason for request should also be noted.
Selection is the first in a series of activities, which concern the library resources. Managing the selection process is central to the functions of any library, and serves as an example or prototype by which to analyze similarly the other resource management processes of acquisition, cataloguing and physical processing.

The ultimate goal of selection is to choose from among the many available resources of knowledge those that best serve the needs of the library’s community. It is evident that as long as the library exists the practice of selection must continue and that to fulfill its goal, selection must cope with change both in materials and in patron’s needs.

A particular kind of information might be available in a host of media, but the challenge is to select those that best serve the library collection. A book can be used conveniently by an individual and is quite durable; a paperback book containing the same information is less durable but also less expensive. A motion picture film on the other hand, though more expensive has the advantage of sound, colour and motion and can be used with large audiences, but a motion picture requires projection equipment to make its information accessible. However, motion is not vital to presenting a certain kind of information, and then a sound filmstrip should perhaps be chosen in favour of a motion picture film. But again the problem remains as to how the librarian is to proceed to perform selection responsibilities.
An organized process is essential for the successful performance of the informational, educational, cultural and recreational functions that constitute the goals of every multimedia library.

Many factors will influence the selection process; the goals of the institution of which the library is a part, the changing needs and demands of the library clientele, the availability and quality of materials, and the limitations imposed by budget staff, equipment, facilities, and time. All these, as well as other interrelated factors, must be considered in selection process. The essential fulfillment of the goal of selection is to satisfy the needs of the library's community and the resources of knowledge. The process of selection brings these two components together.

The organizational structure of the total system also imposes parameters on selection. The organizational structure of the selection process must be compatible with that of the whole library community needs of materials, and that can be accomplished through different approaches from professional approach to wide participation, both voluntary and mandatory. Selection may depend upon the recommendations of concerned authorities, subject specialists, library patrons, or by referring to promotional materials issued by the industry. It is appropriate to combine one or more of these methods and the most feasible are the own local considerations. A materials selection policy that is clearly stated and officially adopted is essential in the selection process. It establishes the basic principles and limits of selection, and provides policies, procedures, and criteria that are used as a guide in selection.

3.2.5 Acquisitions:

After Selection, the next function is Acquisition that is to procure the resources that are needed to serve the patron in a multimedia library. The acquisition is the function of comprehensively to cover all the factors that influence collection building in addition to selection, budgeting, receiving, accounting and
so on. Acquisition may imply selection in the sense of acquiring the most suitable resources, in which case the words “acquisition” and “selection” may appear as synonyms. In many instances acquisition focuses primarily on the procedures required to actually procuring the resources designated through selection.

As in other processes, the procedures of the acquisitions process are subject to the parameters imposed by the goals, organizational structure, and policies of the total system. Some of the procedures are those, which are involved, in requisitioning, authorizing, purchase, involving, confirming orders, encumbering, paying closing orders and recording expenditure.

Acquisition and selection policies are interrelated for the decisions concerning what materials should have priority of purchase must be based on the same criteria that are used in selection. Since the budget imposes realistic limits on the number and kind of materials that can be acquired, the decisions made in acquisitions are, in essence, completing the selection process.

3.3 Financial Needs

The media manager of a multimedia library and information centre is concerned about funds needed to support resources in four areas. The Manpower (Human Resource), The Materials or Knowledge Resources, and the Equipment and other infrastructural facilities to use the multimedia. Both print and non-print collections must be expanded yearly, and thus requires sufficient funding to keep them up-to-date. The constant introduction of new materials in multimedia formats makes this a key requirement of fiscal planning.

The important factors in budgeting process need to be examined at this point are; The financial management, management objectives, needs of the multimedia library and the future requirements.

The amount of money available does not make a great difference in the way a budget operates. In fact a large budget requires more sophisticated and
controlled financial management, whereas a small budget might need only a very simple accounting system.

Detailed information, appropriate data, costing, user needs, infrastructure requirements, and so on, can be considered in future financial requirements. Estimates, which need constantly to be made in any ongoing program, evolved from detailed data collection and essential information on various factors.

The two primary goals of budgeting are, to provide for adequate funds to meet the needs of the multimedia library. The second is to make the best use of the money. The first goal is based upon a determination of what the needs are, the second on good management. Thus, the budget becomes the action plan for the accomplishment of objectives that require funding. With each stated objective, there needs to be a design for achievement which clearly forecasts the cost required to accomplish it, and an operational plan for getting to done.

Adequate financial support of the multimedia library is mandatory because of the diversity in personnel, equipment, materials, and facilities needed to make all types of media available to the patron.

3.4 Organization of Multimedia Collection

3.4.1 Classification of Multimedia

According to various authors opinion “there is no uniform scheme, which can provide scope for different media of information and classification”. Semenovicer⁵ states, “It is not always as extreme as many writers have claimed and commonsense policies already available for the organization of book stock can also extended to include Multimedia materials organized in the same environment”. Fothergill⁶ reports, “Some Multimedia materials may requires a different filing principle to the rest of the library stock and rather attempts to fit material into an existing classified order in a library according to either DDC
scheme or UDC scheme, it may be more appropriate to use another stock filing system and closed access to avoid confusion. Many Media libraries file by title, while others use a fixed identification number. Slides and gramophone records may be filed by an accession or manufacturer’s production number in some large specialized libraries.” It is also worth commenting that open access requires a much greater area than the closed one. Parameswaran says, “It is not possible to follow any of the library classification schemes for arranging the audio materials because of various reasons”. Rajam feels, “Classifying the microforms are more difficult than that of printed materials”. “For miniature form mm and micro-records MR are prefixed. For the identification purpose certain devices are to be adopted, the subject scheme must be written down otherwise it may be difficult to take decisions over new headings”

Niteckt suggested a “simplified classification and cataloguing of microforms” during 1969. Schwartz and Eisenmann discussed briefly about the problems of subject access to visual images in their review article published in ARIST during 1986. Shatford suggest’s a theoretical basis for identifying and classifying the subject of a pictures or illustrative materials. Markey introduces a “method for describing visual images to aid searchers in accessing and retrieving images, whether photographic media or any physical images. Zinkham and Betz-parker have prepared an extensive list of terms useful for providing general and physical characteristic heading for graphic materials. American Library Association has produced a program on “New Directions in subject access to Audio-visual materials, which was demonstrated at New York City during 1986 ALA’s Annual Conference.
3.4.2 Cataloguing of Multimedia:

The need for organizing the multimedia collection is to assist library users and staff in the determination and the location of available resources which will best suit their specific needs are best satisfy their particular purpose.

Organizing the multimedia collection most efficiently requires specialized knowledge of Classification and Cataloguing of such materials. The application of technology and better methods of cataloguing and indexing be practiced.

Skilled manpower or staff is essential for efficiency in the organization process. The basic work performed in the process requires the knowledge and skills of professional personnel who have been trained in all aspects of such technical work.

An analysis of the goal of classification and cataloguing emphasizes the fact that organization is the essential requirement for goal achievement. The user must know what resources are available, what is wanted? and, where? and how to find them?. In addition, this information must be provided as a service, which minimizes the user effort in searching, locating or browsing the collection. To assist in augmenting the functions of the multimedia library the efficient organization of all types of materials be instructional as well as informational. The essential bibliographic and descriptive elements and the analysis of a work presented in the catalogue tool should alert the searcher to the broad spectrum of related subjects and resources that will enhance learning.

Library of Congress published the “first detailed analysis of multimedia materials cataloguing between 1952 and 1965. These rules were issued as supplements to the rules for descriptive cataloguing in the Library of Congress”\textsuperscript{13}, and covered “entry and description for motion pictures; filmstrips. Phono- records and two-dimensional representations”\textsuperscript{14}.
Corsn15 D M and Hardson16 are of the opinion that “since the multimedia resources are special in nature while comprising with books they are to be treated differently by using different types of descriptive cataloguing with more descriptions”

Vaishnav and Parameswaran suggest17, “The Anglo-American Cataloguing Rules (AACR) can be used for the Bibliographic description of multimedia materials, because there are separate chapters for the descriptive cataloguing of such special materials”

J McRee Elrod and Ravilious believe in “adoption of the International Standard Bibliographic Description (ISBD) for Non-book materials which can help expedite and standardize the procumbent and exchange of these materials”18

Jean Weigh’s report at the ALA Conference in July 1976 states, “The subject cataloguing of audio-visual materials is also gaining new attention in 1970. A report of L.C.’s sub-committee responses ensuing to formulate guidelines for subject cataloguing”19

Suzanne Massonnnov feels, “Hasty decisions on cataloguing policy are easy to make but difficult to reverse when expectations go wrong. In the specialized area of bibliographic control of the media variously termed non-print or audio-visual rules meriting broad support have not developed as rapidly as the new forms of materials have emerged, until now the best attitude towards implementing rules has been the most flexible the decisions have emerged. Further Suzanne states, “The early codes and manuals were prepared for local application, but they are now prepared with a view to universal adoption.”20

The forms of multimedia materials have multiplied during this period and as the report of the National Commission on Libraries and Information Science (NCLS) observed, Multimedia materials have become an important part of our
national knowledge resources, however, like many natural resources, knowledge resources, uncoordinated in growth and usage are in danger of being wasted and inefficiently utilized.21

Banker etc are of the opinion that, “Subject guides to multimedia materials have been produced in direct response to the needs of users”22

Joachim Martin D T observes of the problems in microforms cataloguing. “The Indiana University at Bloomington Libraries have been responsible for cataloguing of 3 major microform sets.”23

The library has a centre for buying cataloguing and storing microform, audio-visual media and other multimedia materials. Cremer Monica says “cataloguing of microform is difficult because of the wide range of subjects covered and lack of cataloguing aids. The library uses some external services for on-line cataloguing of individual monographs in large microform collections.”24

Thomas Manna and Van O R25 feel that “MARC tagging in the Achieves and manuscripts control format will take place and the records input into the on-line computer library centre (OCLC)” Hamilton Linda K states, “University Microforms International (UMI) has had direct access to the OCLC database, adding to it pre-publication cataloguing entries for UMI microform publications”.27

Similarly, White Robert feels “a group discussion on a general planning document for Virginia Commonwealth University libraries concerning their possible implementation of a COM (Computer Output Microform) Catalogue”.28

Black John R states, Microforms must be brought out into every day world of other library materials; use should not be inhibited by physical or psychological barriers. Microforms are more durable and more readily accepted than librarians had anticipated. Experience of the University of Guelph has indicated that use of normal cataloguing practices and decentralization of microform reading
equipment result in a higher level of service to users with few disadvantages in the running of the library. Well trained accessible staff are essential as are continuing user information programmes, full cataloguing and well-maintained equipment.\textsuperscript{29}

3.5 Physical Planning for Multimedia Library

Incorporating Multimedia Material into the library invariably raises questions about physical conditions and layout. Many of these are more the result of staff mis-handling rather than real problems, and in this section the intention is to consider the actual efforts of these materials. In general, apart from the point discussed below, multimedia do not require special considerations. Conditions that are suitable for books are usually satisfactory for Multimedia.

The major factors that are specific to Multimedia materials are extremes of temperature and humidity, dust and magnetic fields. If staff and clients can work comfortably in the environment, then the temperature and humidity levels are likely to be satisfactory for materials and equipment. It should be noted that extreme conditions affect the multimedia materials and a check should be made regularly. If there is such damage caused, and staff should take care that conditions do not alter much when the library is both open and closed.

Problems with magnetic fields, created by use of Electric motors, transformers, air conditioners, cleaners, or other electrical and electronic equipment should be kept away from Multimedia. Some fire security devices must also be provided and these should be checked for their effects, and condition of usage.

The worst hazard is undoubtedly dust it cost film and lenses, it also tends to be ground into the materials as they are used, causing poor reproduction or even scratches. While a totally dust-free atmosphere is impractical, every effort
should be made to ensure cleanliness. When not in use, all Multimedia equipment should be kept covered, and a regular system for cleaning the machinery is advisable. Plastic materials need to be wiped with anti-static cloths at fairly frequent intervals, particularly if plastic protection sleeves are used around them.

3.5.1 Electricity Supply:

Most equipment requires a main supply of electricity for operation. While some can make use of battery power sources, these are very expensive. It may be worthwhile to invest in rechargeable batteries.

All safety measures must be taken to see that no electrical sparking is emanating from plugs and switch. They should be internally guarded, access to the live and neutral parts being prevented until the plug removes a guard through insertion of the earth bar. As a further safety measure, they should be easy to reach so that it is possible to insert or remove plugs without having to pull on the wires or having to bend them acutely as they emerge from the plug, both of which can be dangerous. Although each library will make its own decisions, it is necessary to bear in mind both the safety and the convenience factors.

3.5.2 Lighting:

Many Multimedia materials deteriorate under direct exposure to sunlight, so this should be avoided, particularly with photographic materials. However, the major problem is the difficulty of seeing pictures on a screen when the surrounding light is bright. To reduce this, many rear projection screens can be easily protected by having hoods around them. Some care and consideration is however be given to the direction and level of lighting. In order to illuminate a workplace adequately, it is necessary to make good use of the different sources of light which are available-namely natural light and artificial light.
Florescent tube lighting may be the cause of interference with electronic equipment; this is particularly obvious on television or computer monitors. In prime condition, the lights usually produce no problem, but defective tubes, especially at the end of their life, generate transmitted wave which can cause crackles on sound reception and white lines on television screens.

3.5.3 Viewing/Listening Positions:

When Multimedia materials first appeared in libraries, there was some anxiety about possible disturbing effects on the book users. The problems of distribution of mains power and security also seemed insurmountable unless the viewing/listening areas were enclosed in some way. As a result, there was rapid development of carrels, small enclosures either of three sides only or complete, in which the equipment was housed. In some libraries, Multimedia materials and equipments are kept and used in special room only. This makes cross – referencing between information in different types of document even more difficult than usual. In others, carrels are blocked together in one part or spread in small patches for particular subject areas. It is apparent that a client wishing to use paper materials will go to the open tables, and to explore Multimedia material he visits to a carrel. Now that television sets or monitors are used for continual reading and study, it is necessary to consider the brightness of light on them. The user should be able to sit about one meter away from a 14-inch screen to view and work in comfort.

Whether the library decides on a separate room for multimedia material, on carrels or the open table, display and use will depend on a strong point i.e. the equipment for multimedia does occupy space, and therefore if the client is to make notes or refer to other materials at the same position, an adequate table – top area has to be provided.

Security will always be a problem, and librarians are right to be anxious about the attractive nature of much multimedia material equipment to the potential
thief. It is worth nothing that some of the library security systems developed to prevent the loss of books can be used to similar good effect with multimedia material equipment.

Noise is simply a sound, which the hearer considers to be unpleasant or disturbing. The effects of noise can be reduced in several ways or by a combination of approaches. These include reducing the noise at its source or on its way to the hearer, and minimizing an operator's exposure to the noise. The best solution, if possible is to reduce the noise where it is generated.

3.5.4 Browsing:

If users are to be encouraged to browse through the library's Multimedia collection, it should not be necessary for them to take the materials to the main viewing/listening positions. Light boxes for transparent materials and simple sound cassette players for listening to tapes can be fixed alongside stacks easily and inexpensively. With computer software and videotapes or Optical disks browsing is difficult and must be confined to the printed information supplied with the containers.

Shierin M. Forthergill R. Butchart D and Allen M are of the opinion that "since the nature of Multimedia materials differs from one form to another, each form of them needs a separate style of shelving. Filmstrips, if not already packaged in book-like cases are usually held in special drawer containers deep enough to take the filmstrip. Shelving can be adopted for housing film and other cans. Grooved shelving stops the round can rolling backwards or forwards with frequent dividers or supports for vertical filing or film materials (archival film and videotape is generally stored horizontally) photographs and illustrations are usually best mounted and then filed in lateral filing cabinets with several items to a folder. Slides and other colour transparencies need protection from heat and light and modern filing systems using plastic wallets hung in drawer filing cabinets are as
successful as any method. Some manufacturers produce special storage units and containers to hold mythical collections, but a little though and ingenuity on the part of the librarian will usually overcome minor problems of Multimedia materials storage.\footnote{30-32}

Saddington states, \textit{"As many Multimedia materials can be shelved as books; Video tapes and other packaged materials which come in box-like containers can be shelved adequately; audio-cassettes are small and filing and grouping several together into a box like container is safer if it can be arranged"}

3.5.5 Technical Area:

A library dealing with multimedia will normally require access to a technical area. This will have three main functions.

1. Repair of Equipment:

A store of spare parts, including lamps, will be necessary for instant replacement. Depending on the skills of the staff, it may be possible to undertake repairs also. A sufficiency of measuring devices for identifying faults, soldering irons, mechanical jigs etc. may be present.

2. Repair of Material:

The sophistication of this will depend on the level and type of stock present in the library, and on a calculation of the relative costs of instant in-house repairs and more time-consuming external agencies. Simple laminating equipment and binding will normally cover damage to paper materials. Damaged still picture are most economically discarded, but film can be spliced. To identify areas of damage in a film sophisticated and expensive apparatus is available to check a reel automatically. Sound tape can sliced, but videotape should be recorded. Decisions on the level of repair to be undertaken will dictate the quantity and type of equipment provided.
3. Production:

The standard of provision of equipment and space for this will also depend on policy decisions. If copies are to be provided to the clients, there should be provision of the appropriate machinery for duplication. Original materials may also be made: this may require simply transferring one format to another. For example microfilming periodicals or transferring disc recordings to sound cassettes after checking copyright restrictions. Another method may be taking off-air recordings from broadcasts, in which case good aerials connecting to the equipment will normally be essential. The library may also have decided on the active creation of new materials to fill apparent gaps in its stock, and the level of provision will depend on the forms in which such Multimedia are to be made.

3.5.6 Storage and Maintenance of Multimedia:

Brown says\textsuperscript{34}, "Selection, storage and retrieval of information are probably the three most important aspects of the media manager or librarian’s responsibility. Having acquired material from various sources and selected it for the collection the next question, which arises, is how it is to be organized? The information carrying materials have to be organized physically and by subject content so that the potential user can find and use information to advantage. Physical organization includes use information to advantage. Physical organizations include filing the materials and storage conditions. One of the most evident characteristics of Multimedia is the wide variety of shapes and sizes and formats of presentation and these often present library with problems of storage and access. One of the long standing discussions since libraries have concerned with audiovisual materials should be integrated with books and if not whether they should be integrated with themselves. The literature abounds with examples of whether, why and how librarian should integrate all materials."
Harrison\textsuperscript{36} suggests three types of storage that need consideration: For archival purposes implying the preservation of the material for lengthy period, reference storage for master material and originals and facilities for currently used stock. Different storage conditions will apply according to the purpose. Multimedia may deteriorate or become unviable usually faster than books and the instability of some of the material adds another dimension”

Further Harrison and Ravi\textsuperscript{36-37} feels, “Temperature, humidity, clean air and ventilation are all considerations for storage of material. Constant temperature and humidity are necessary to avoid damage; controlled humidity prevents drying out of magnetic tape and film materials and also helps to prevent the development of mould. Clean, well-ventilated air involving some form of air conditioning or filtering is important; dust and air pollutants affect multimedia material alike. Additionally there are other conditions such as the storage of slides and other colour transparency materials in closed cabinets away from light or sources of heat. Magnetic materials need to be stored away from electrical interference and to transformers; leaving videotapes on the top of working television sets affects them. It is important to most Multimedia Materials that store them away from direct sunlight or sources of heat.

The British Film Institute\textsuperscript{38} is in the opinion that “Colour materials creates problems of fading and film quickly becomes useless, if it is carefully handled or damaged in projection, scratches on the film cannot usually be removed and dust particles will produce scratches if the material is not properly handled.

John Evision says,\textsuperscript{39} “The self evaluation for microform storage and core was designed to assist librarian who work with active non-book collections.
2.5.7 Staff for Multimedia Handling;

Having established that librarians were involved the next problems were what sort of staff would be needed in a multimedia library, how to organize the staffing patterns and not least where to recruit the staff from. Primary consideration has to be given to the type of staff – should they be specialists or jacks-of-all-trades?

Harrison suggested that in the initial stages of development, "it is not unusual or unreasonable for librarians to be the latter, it does, however, provide a valuable introduction to all materials and a grasp of basic problems concerned with handling, several NBM in the same situation”

ASLIB Audio-visual group emphasizes, “the training of librarians in AV skill still occurs on the job with detailed in training programmes in some libraries or library systems large enough to provide the facilities and allow the necessary time to train the recruitees”

Burkett R. S., Cabecceiras James and FotherGill suggest “the enormous growth of (and reliance on) visual literacy is resulting in a population that has a preference for the picture over the printed word. The Librarian must be skilled in evaluating visual media and ascertain their communication effectiveness. Knowledge of how and under what circumstances the material will be used to determine whether it should be in print slide, filmstrip picture form.”

For Lancaster, “both team librarianship and information broking are examples of recent trends to de-institutionalize the professional librarian. Modern technology will accelerate this trend and change the traditional concept of the librarian into that of a electronic information sources.”

Andrew and Grove say that in UK “the Schools of Library and Information Science are instrumental in considering the NBM librarianship into library school.”
Nat M. Adeyimis\textsuperscript{48} say that lack of human resources is the primary factor mitigating against the introduction of automated information systems. In his words “It is my considered opinion that this issue is the very foundation of our present circumstances. I venture this assertion in recognition of the fact that out of the major resources which underlie the success of any automation project namely the equipment, material, human and spatial resources - the most significant and by far the most difficult to procure is the human resources in terms of skilled manpower for planning, designing, programming and project implementing.”

Spreitzar Frances\textsuperscript{49} states his opinion that “librarians have been turning to microforms to solve some of their problems but with microforms utilization is the problem area. The user of print material can choose where and how to read a book or periodicals, but microforms restrict the users. Microforms must be read with the help of a machine and the user needs to learn how to use the machine and, therefore, modify his working methods.”

3.6 Utilization aspects of Multimedia materials

A comparative study of microform use in a research library by Holloway and Sutton\textsuperscript{50} at the University of North Caroline at Chapel Hill in 1982 and in 1987-88 conclude that “despite changes in the library patterns of use of microforms have changed relatively little in the years between 1983-1988. English language materials predominate recent materials. One more heavily used than other materials, and newspapers and ERIC reports tend to be the most heavily used materials. Use of Government documents has increased and more effective indexing of the newspaper collection will mean increased use in the future.”

Gabriel and Flesner\textsuperscript{51} have conducted a user’s survey on use of microfiche in a university library, “survey of microfiche use in a university library in 1988 analyze use of microfiche to evaluate how accessible periodicals on fiche are,
and to discover how users compare convenience vis-à-vis paper issues. Results showed that 85% of use was centred in new periodical collection of Quarterly Microfiche Titles, which resulted in their being moved to a more convenient location. The other major finding was that contrary to popular belief most respondents found microforms easy to use.” Harrington found the problems of users in making use of periodicals/issues in the library. “The need for a separate periodical information desk staffed with well trained people able to handle all kinds of periodicals questions is emphasized. The University of Oklahoma’s experience with a current periodicals/microforms room is used as an example. This conclusion is reached that an on-line public access catalogue that includes serial location and holding will further improve periodical accessibility and relieve user frustration.”

John Tuck from the University Library of Manchester has worked on microform and audio-visual collections in John Rylands University Library of Manchester. “The university library has recently mounted an exhibition of materials relating to its substantial microform and audio-visual holdings in order to draw attention to the diversity of material available in its microform collection and to generate increased use of audio-visual holdings. The two collections are described, the use and organization of the materials discussed.”

Harrington in his work on the “Development and management of a university microforms collection” states how microforms emerged as a major means of acquiring library resources during the 1960s and their increased use in the 1990s made the need for their control greater. Describes the growth and development of University of Oklahoma (OU) libraries. Microforms area by cooperating with architects and engineers and by giving specific attention to every aspect of the study environment a comfortable user-friendly atmosphere was treated. Factors contributing to the successful use of microforms in the OU libraries
include: development of guidelines for the acquisition, control and handling of microform materials. Well maintained equipment, adequate bibliographic control, well trained staff who have a positive attitude.”

Baker and Zink⁵⁵ have described on the Government publications in microform. “The method by which the University of Navada, Reno libraries ensure that Government publications in microform are used as often as possible by main streaming them into the Government documents collection thus encouraging their use by library patrons.”

Mary Margaret Bell⁵⁶ has discussed “the efforts being taken in various institutions in Kentucky to preserve documents relevant to local history on microform and microfiche. These institutions include: the University of Kentucky, the Kentucky Historical Society and the Public Records Division of the Kentucky department for Libraries and Archives.”

Davies⁵⁷ provides a “brief introduction to the extent and organization of the microform collection at Loughborough University Library and examines in general terms the functions and advantages of the use of microforms within libraries. And areas where improvements in information flow involving microforms can be effected are identified.”

An attempt in an innovative approach to user acceptance of microforms has been made by Whitomore⁵⁸ “The acquisition and utilization of microforms is one last effective way to meet increased demands for information services in the 1980s. And investigates the relationship between a microform instruction programme and user attitudes towards microforms at Pittsburgh University Library. The programme was designed to exploit the advantages of the micro-medium had aimed to reduce user resistance to the microforms.”
Roselle describes the “design and physical layout of the microforms facility at the Golda Meir Library, University of Wisconsin, Milwaukee which began in 1971 and which attempted to solve the dual problem of providing for storage, retrieval and patron access and acceptance factors of microforms while at the same time adopting an existing building to these unique requirements.”

Raikes reviewed in 1976 in response to a “major user resistance problem the microforms division of Princeton University’s Firestone Library initiated a facility and service enhancement programme.”

Hamilton says, “Since November 1979 University Microforms International (UMI) had direct access to the OCLC database, adding to it pre-publication cataloguing entries for UMI microform publications.”

The Yale University Library has brought out “guidelines for the handling of microforms the selection and acquisition of microforms and their bibliographic control. Considers acquisition of microforms versus had copy (use should be the deciding factors). The fullest available technical and bibliographic information should be used. Guidelines for bibliographic control, cataloguing, classification and bibliographic records in general are given.”

Tannenbaum and Sidhom state, “The careful attention to human and environmental aspects will change readers. Present negative attitudes to microform
use was proved by the New York University’s Bobsf Library. Particular care was
paid to such matters as centralization of equipment, control of lighting, noise and
room climate, line of vision between reader and machine, type of corral and
assistance to users, particularly in technicalities were also prime considerations.
Room count survey is indicated that in one year users of microforms in Bombst
Library and almost doubled and a questionnaire-based user study revealed a most
positive and appreciative user situation. The statistics and brief comments are
given on: user attitudes, reaction to environment, comparison of facilities used
and personal evaluations.

The second conference of South-east Asian Librarians66 held at the
University of Philippines outlines a many advantage of microforms. In the south
East Asian region microform facilities are well developed with a total of 24 units,
most using 35 films and the majority of units being situated in academic and
research institutions.

Reid describes67 in his article ‘Use of Microforms’. That the “growth in
the use of microforms materials and equipment in an academic library and present
provision and holdings and planned for future developments, including a COM
(Computer Output Microform) catalogue the use of a cassettes microfilm reader
printer for the printing of single entries etc.

Tannenbaum68 states the library of New York University “planned a new
microform room with the aim of creating environmental conditions which
increased user acceptance of microforms. As a result of the measures taken the
use of the library’s microform collection has increased dramatically

Carroll69 has brought out “some problems of microforms utilization in large
university collections.
3.6.1 Survey Works on Multimedia Materials:

McIntosh70 has made a survey of library microforms facilities faced with reorganizing a micro text collection in the university of Massachusetts Library: “The microform facilities of 11 institutions in the USA and Canada were researched in order to establish guidelines. The following areas of interest are discussed: administration, personnel, collection access, classification, acquisition, circulation, collection indexes, hours, facilities, graphics, collection storage, equipment, photocopying, portable equipment, equipment repair, cleanliness, vandalism statistics, users attitudes, publications and publicity.

Lafeche71 carried out a “study in December 1984 in three types of library: University, Polytechnic and Public. Data were collected by questionnaire from 284 users on attitudes to microforms in relation to a range of variable including age, environment and equipment, wearing of glasses and frequency of microform use. Results showed that younger and more regular users were most positive while wearing glasses correlated with negative attitudes. Recommendations include initiation of programmes promoting microforms to older users and further research on types and quality of equipment.

Klimley72 from Columbia University library who felt “the problems of maps and charts made a survey. The study covers problems of maps and charts, loose maps requiring pockets, foldout maps and charts and oversize block and white and coloured maps. These problems contributed to the high binding cases of the library. A trial survey showed that the common archival solution of microforms would have to be adopted.

Change and Isman73 have conducted a “survey and questionnaires were sent to all 81 members institutions of (ACURIL) (Association of Caribbean University Research and Institutional libraries) to determine their microform holdings and equipment. Data is tabulated with analysis. Many collections are
small but can be expected to grow and over 1/3 of respondents offer microforms on introducing loan. A thesis work-study made by Melaren on a “study of the use and potential of microforms in London colleges of higher education defines microforms, considers the advantages and disadvantages of the different formats and presents a history of microforms. Considers hardware and software. Concludes that microforms are not regarded as educational tools in the colleges surveyed. Poor readers reduce microform potential and the provision of suitable readers will facilitate a realization of this undoubted potential. Recommendations are made regarding the design of a suitable reader and the provision of software. Another Ph.D. thesis of Whitmore University of Pittsburgh investigates “the relationship between a microform instruction programme and user attitudes towards microforms. The instruction programme was designed to exploit the advantages of the microform medium and aimed to reduce user resistance to the micro format.

Spreitzer has made a detailed “survey of microform accommodation, layout of equipment and user access in 4 USA libraries. For each library, discusses the organizational structure of the microform department, collection development, policies, processing, circulation, hours open, user accommodation and gives a floor plan.

Greene had made a “use survey on microform attitude and frequency of microforms use in technological university libraries in USA.

Harrison says that, “a survey of the literature reveals that in some areas a rapid development has taken place and much has been achieved. Surprisingly, perhaps the area of cataloguing rules has developed encouragingly and concomitant standards are in progress which will lead to the establishment of a national databank.
And further Harrison's glance at the "existing bibliographies reveals a wealth of journal article while the range and scope of publication indicates the increasing interest and involvement of many types of libraries in non-book materials.

3.7 Copyright Status of Multimedia Materials

The laws of copyright were framed in order to protect an author against piracy of his work. This right is not a right, which arises under common law, but is a right, which has arisen by statutory protection. Hence, if one were to be granted by this right, one would have to examine the statutory framework under which the laws of copyright were enacted.

Today worldwide explosion of information and revolution of communication, many interesting issues have come up which have great impact in the field of library and information science. Library professionals and information scientists are the information providers to the information seekers or the information user community. In doing so, they use various sources of information. They often download required information from online and CD-ROM databases. Copyright law on database producers, online hosts, and users of online hosts and CD-ROM does not provide clear cut solutions relating to their piracy, unauthorized users, etc. This is because the concept of database is not understood by legislators. This ambiguity crops up scope for debate about whether databases are indeed literacy works or compilations. Most electronic databases, whether comprising words or numbers, will be considered in most legislation as compilations. It is necessary to define compilation at this stage. A typical definition has been taken from the US Copyright Act and is mentioned below:

"A compilation is a work formed by the collection and assembling of pre-existing material, or of data that are selected, co-ordinated, or arranged in such a way that the resulting work as a whole constitutes an original work of authorship".
For librarians the issue of copyright has been a constant source of anxiety. That concern is expressed is important, for the maintenance of the law helps to ensure just reward for authors and produces, and therefore the continual development of new products.

3.8 Preservation and Maintenance of Multimedia Materials

Physical format digital material, such as recordable compact disks (CD-R) and digital audio tapes (DAT), are considered to be viable preservation alternatives provided that the technical limitations are managed through comprehensive testing and analysis programs, and careful technical management of equipment and facilities. Media instability and changes in technology are the two main threats to the continued accessibility of digital information stored on physical formats. Changes in technology may render these materials inaccessible within a very short time frame and the indeterminate expected lifespan of many of the modern optical and magnetic carriers provide a further challenge to managing the audio and audio-visual data. Many institutions are establishing standards and best practices covering formats, technical specifications and metadata, establishing parallels with preservation of other digital materials.

The majority of sound recordings are made of plastic: conservation must be treated as a plastics degradation problem, requiring a different approach than paper conservation. It is important to understand the basic chemical degenerative processes and the principles of the retention of sound by the various media in order to ensure that proper action is taken to slow the rate of degradation.

Preservation involves controlling the environment and conditions of use, and may include treatment in order to maintain a cultural property, as nearly as possible, in an unchanging state. There are essentially only three concerns to consider when handling and storing sound recordings:
that they be kept free of any foreign matter deposits;

that they be kept free of any pressure that might cause deformations; and

that they be stored in a stable, controlled environment.

The lifespan of a plastic is largely determined at the manufacturing stage. Variables such as basic resin, the materials added to the basic resin to alter its properties, the lamination of materials with dissimilar properties, and the manufacturing process itself, all directly affect the lifespan of the plastic. Post-manufacture environmental factors such as storage conditions, temperature, humidity, and handling also contribute to the long-term stability of the plastics.

Records are kept in closed access, housed in plain cardboard sleeves. On each sleeve is recorded the disc's identification and location. The cardboard selves are fixed in the browser boxed supplied by the commercial library equipment manufacturers. These boxes hold the records in such a way that the front of the first record is moved forward, the subsequent record is in full view. This helps the readers in browsing and going thought the collection or records. It is desirable to house the similar sized records together in one sequence and separated from records get lost behind larger ones and there is also a chance of their damage.

Classical music records are arranged in alphabetical order by composer. Non-classical music is divided into categories such as light pop and jazz etc., and arranged in alphabetical order by artist.

Films are supplied by the manufacturers in the containers, which are kept in fireproof metal cabinets. Filmstrips are supplied in small cylindrical boxes; the top of each is fixed with round label indicating the contents. On these labels there is space for writing accession numbers. After these filmstrips are accessioned, these are filed in metal drawer specially designed for the purpose. These metal drawers are housed in a cabinet. An index of these films strips titles
is appended with the cabinet. It will be better if the index is on the index where there is scope of inserting cardboard strips for new titles added.

Slides are generally stored in slide boxes, each slide having its own individual slot into which it fits. If the slides are to be viewed in the library itself then these can be kept in slide trays from where these can easily be transferred to the projects.

There are specially built cabinets, which are used when the collection of slides is very large. In these cabinets there are three sections, left and right and sections hold the slides in a series of movable panels. The middle section consists of a viewing panel with its own built-in light source. Panels of left and right sections can be pushed across until these are in front of the illuminated viewing panel.

Maps should be stored flat in the case of those printed on paper. Folded paper maps should be opened out and also stored flat, to avoid wear along the fold lines by constant use. Folded maps in directories become torn and damaged by being wrongly folded and are better removed and stored separately.

The methods of storage most generally adopted are horizontally, in drawers, or vertically, in cabinets or by some methods of suspension. Metal drawer's are preferable to wooden ones being less liable to jam and are resistant to fire. Cabinets for maps in frequent use should not be more than 5 feet high; they should preferably be of a height to enable the top to be used for consulting the maps. Vertical filing cabinets provide a convenient means of storing series of maps of uniform size. Extra large maps should be rolled and stored in cylinders or given a protective covers and kept in racks or narrow shelves.

Microfilms are generally for the back files of newspapers. Each microfilm consists of a continuous roll of film on which is recorded one-month’s issues of
any one daily newspapers and this is kept in a cardboard box. These cardboard boxes, each labeled with the title of the newspapers, the month and the year of the particular issues, are stored in sliding drawers within storing metal cabinets.

Microfiche is commonly used in the libraries. It is a type of microform, which is used for presentation of a wide variety of information. Several Indian publications are available on microfiche. Old gazetteers, census reports and several daily newspapers especially of Calcutta are available in this form. These microfiche are fettled into a hard backed ring file and hang like a book. Each microfiche is placed in its own separate pocket-type envelope so that the heading of each is clearly visible. These ring files are placed in metal drawers in a cabinet.

Preservation of microfilm is a microphotographic reproduction of an information resource originally available in paper or other format. This reproduction consists of microimages that are created in a silver-gelatin emulsion applied to a polyester film base. A preservation microfilm should be a camera original film (i.e., “first generation”) with the microimages appearing in negative polarity.

The film product, consisting of the base and emulsion, is expected to exist in perpetuity through its manufacture, use, processing, housing, and storage in accordance with established standards and recommended practices without degradation. Applying the term “preservation” to a microform in general carries the expectation that the information sources available for reformatting are as complete as possible and presented in a coherent arrangement; that the physical materials of the film product are of a recognized and established stability; and that efforts need not be undertaken to recreate a microform of the same information source. A preservation microfilm should include explanatory information so that, when a copy is made from the original film, there is easier access and identification of information appearing in the microphotographic reproduction.
Microfilm rolls are stored in single reel storage boxes. All rolls should have wrappers placed around them for identity purposes.

Once the Microfilms have been technically processed, the next problem is their proper storage and preservation, which on the one hand should be helpful in tracing them out and on the other capable to avoid any loss to the Library. Of course, these cannot be damaged by the insects but being highly susceptible to climatic conditions and subject to chemical reaction, these necessitate altogether different treatment than given to printed material. Keeping in view these aspects and the proposed Scheme of classification, Microfilm Storage Cabinet, as in the attached sketch, is recommended for the purpose. Evidently these could be fabricated locally on order to suit the size of Microfilm but a model has been recommended in order to standardize the pattern and practice.

A Microfilm Storage Cabinet is composed of five (5) Compartments. Each Compartment consisting of ten (10) Shelves and each Shelf comprising of one hundred (100) Leaves fitted of Plastic Covers. For purposes of classification each Microfilm Storage Cabinet is to be numbered in Arabic Numerals viz., 1, 2, 3 and so on. Each Compartment has to be numbered by Alphabets (letters) viz. A, B, C, D and E in each Microfilm Storage Cabinet. The Shelves are to be numbered by Arabic Numerals viz., 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 (1-100 in each Compartment) and the Leaves are to be numbered serially viz., 1 to 100 (1-10 in each Shelf). The requisite labels in the Label Holders provided in each Microfilm Storage Cabinet. Compartment, and Shelves should appropriately indicate the details of each as desired above.

Thus each microfilm Storage Cabinet with a series of A-E Compartments (five Compartments) will have the capacity to accommodate 5000 Microfilms, one Microfilm bearing single Accession number having been put inside an
envelope giving full details of the Main Entry and inserted in each Leaf (Plastic Cover), obviously in the same serial order in which these appear in the Accession Register of Microfilms. Even a single Microfilm Storage Cabinet with the above capacity might be found conveniently big enough and handily to suit the requirements of a middle-sized library.

To eliminate chances of chemical reaction on Microfilms because of atmospheric conditions, if possible, Microfilms Storage Cabinets should be stocked in the air-conditioned stack-rooms. Since very few Libraries can afford this facility in India, these Cabinets should normally be placed at places which are dry and free from humidity all the year round. In the regions which are damp or humid during any part of the year, these Cabinets should be kept at places equipped with exhaust fans or some similar arrangement.

The Microfiche Service Copy is a third generation positive film cut into single sheets with multiple images (one or many) in a proscribed sequence comprised of a standard number of images. The number of images generally depends on the reduction ratio, but outside dimensions of the microfiche sheet is one standard size that will fit into microfiche readers in the reading rooms.

Physical format digital material, such as recordable compact disks (CD-R) and digital audio tapes (DAT), are considered to be viable preservation alternatives provided that the technical limitations are managed through comprehensive testing and analysis programs, and careful technical management of equipment and facilities. Media instability and changes in technology are the two main threats to the continued accessibility of digital information stored on physical formats. Changes in technology may render these materials inaccessible within a very short time frame and the indeterminate expected lifespan of many of the modern optical and magnetic carriers provide a further challenge to managing the audio
and audio-visual data. Many institutions are establishing standards and best practices covering formats, technical specifications and metadata, establishing parallels with preservation of other digital materials.

**Computer Software**

Computer software like audiocassettes or floppy discs should be stored far away from windows and radiators since direct heat and sunlight could damage the package. The arrangement of these items should be according to the hardware requirement so that the users find it easy to locate.
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Further Readings:


