1. Introduction

India has been the cradle of knowledge for thousands of years. Today there is a felt need to preserve and propagate indigenous knowledge and culture alongside the acceptance of universal knowledge through globalization in the age of science and technology. The IT oriented environment has brought in opportunities of a revolutionary nature in archiving and accessing knowledge in the digital form which were known to exist in conventional libraries mainly in the print form. India has undertaken many initiatives to digitized its documented knowledge base and set up digital libraries for better access to its diverse clientele. However, these initiatives are seen to be sporadic and projects with one time funding. India needs well planned and policy based digitization efforts to be effective in the present situation of acute digital divide between the urban educated techno savvy minority and the vast majority who are not so fortunate. Only when the fruits of digitization of available information/documents reach to people through digital libraries, information centers and similar agencies can we consider ourselves true beneficiaries of technological advancements.

The concept of “library” was evolved with a basic purpose of preservation of recorded knowledge which eventually helped in prospering culture and for the betterment of society. Initial method of preservation of knowledge in various forms like clay tablets, carving on stone or a metal plate, leather was simple and durable. With invention of research and subsequent invention of Gutenberg’s movable printing press provided another medium to record the knowledge in printed form, which survived for nearly hundred years.

What do we mean by the term “library” and how does it differ from a digital library? Traditionally a “library is a place in which books, manuscripts, musical scores, or other literary and artistic materials are kept for use but not for sale”. In effect, it is an institution oriented towards collections and custody, where people may make use of the facilities. Whereas a digital library is a computer–based system for acquiring, storing, organizing, searching and distributing digital materials for end user access. It is not network–based but designed to be capable of being attached to a network. A digital library is not just a collection of material in electronic form but it includes a browser interface and perhaps a virtual space and society. It requires less space and the data can be made available through communication networks to anyone anywhere, while
facilitating searches with speed. The digital library is not a single entity and as such it is linked to the resources of many collections.

Libraries have traditionally facilitated each of the following elements of research such as production of new knowledge, its preservation and its organization to make it accessible for use over the generations. In modern times, the library is constantly required to meet the challenges of information explosion. Assimilating resources and restructuring practices to process the large data volumes both in the print and digital form held across the globe, therefore, becomes very important. A recourse by the libraries to application of successive forms of what can be called as Digital Library Technologies (DLT) has been the imperative. The Open Archives Initiative (OAI) is a recent development that is expected to assist the libraries to partner in setting up virtual learning environment and integrating research on a near universal scale. Future extension of this concept is envisaged to be that of Grid Computing. The technologies driving the ‘Grid’ would let people share computing power, databases, and other on-line tools securely across institutional and geographic boundaries without sacrificing the local autonomy. Ushering an era of the ubiquitous library helping the e-research is thus on the card.

I. Traditional Library to Digital Library

Traditional methods of collecting, sorting, processing and accessing information have undergone a massive transformation due to the growth of virtual libraries, digital libraries, online database, library and information networks. Digital technology, Internet connectivity and physical content can now be dovetailed, resulting in a digital library. Digital libraries and the digitization of print materials can preserve resources in art and culture, education, science and technology, literature and humanities, media and entertainment, and cultural heritage and various. In India, a substantial number of libraries and information centers have initiated digital library projects including databases and e-journals, or by digitizing their own archival-valuable collections. Hundreds of thousands of ancient books and manuscripts, scores of them still preserved in palm leaves, urgently need digitization to preserve the cultural heritage of India.

Growth and development of libraries and use of technologies have renamed these through functioning, management and services as “Automated Library”, and “Digital Library”. The popularity of “Digital Library” has been primarily for these reasons. A) Access: The unlimited
access to information resources by the users anywhere, any time and any format. **B) Content:** Variety and huge quantity of contents, **C) Cost:** Eliminating duplication of money, manpower and material. The Digital Library initiative undertaken by NISCAIR (Traditional Knowledge Digital Library), Parliament Library, Indian Institute of Technology – New Delhi, Indian National Sciences Academy (INSA), New Delhi are very much commendable in providing information resources and services to users at large free of cost. This also confirms the Open Archives Initiatives by individual institution in providing open access to information resources.

Digital libraries and digitization are crucial for disseminating and preserving knowledge. Digital library activities are gathering momentum in developing countries, especially India. Since most higher education and research institutions in India are funded and controlled by the central and state governments, clear-cut national plans and polices are needed for infrastructure, standards, metadata, interoperability, multi-lingual databases, training, co-ordination, copyright, and archiving and preservation methods, so that our heritage of knowledge and culture can the ravages of time and present and future generations can benefit and be guided by them.

**II. Conversion of Traditional to Digital Libraries**

Historically, if we look into the development of libraries and reading rooms in particular, it is apparent that they came into existence out of necessity rather than by compulsion. There are no statistics showing how many libraries there are worldwide, but details of libraries in the developed countries and a few from developing countries are available. It is a similar case for the number of people using libraries and the number of books and periodicals each library has accumulated over a period of time, and the total number of librarians working and their staff. Constitutionally libraries in India are included in the State List. The central government has jurisdiction only over libraries it has established and institutions declared to be of national importance. For the literate population of about 500 million, which is more than one and a half times the population of the USA, there are more than 71,069 libraries: 8,267 academic, 54,845 public, 1,200 science and technology, 450 social science, 800 government departmental, 500 art/cultural/humanities, seven national and 5,000 industrial and private institutional libraries (Kaul, 1998, pp. 39, 119). But they cannot be called libraries in the usual sense, for more than 90 per cent of them are simply reading rooms. Accordingly to the Statistical Abstract of the USA (1999), the total number of libraries in the USA up until 1997 was 37,591.
We cannot ignore the role of librarians and their supporting staff. Are they being provided with adequate training and the necessary guidelines to execute a smooth transition from traditional to digital? It is vital to look at the colleges and institutes training future librarians. Do they have common syllabi and training methods to meet the additional requirements of digital libraries? The answer to these questions are emphatically “No” and “Not yet”. All the above difficulties need not discourage proponents of digital libraries, but they must be addressed quickly and cooperatively. Digital libraries depend on Internet and intranet connections, yet we have not found a foolproof system to prevent virus damage. Therefore it is advisable to retain the traditional library setup despite developing a digital version. That is, for the sake of uninterrupted functioning, it will be necessary to have both systems, creating further strain on the system itself.

The Internet and Intranet being the core of the whole system, difference in technology between developed and developing countries will persist. Upgrading information technology is vital and should be accorded high priority by each country. However, steps should be taken to narrow down the existing gap and to incorporate the latest developments without any time lag. If this ongoing process is not attended to, the whole system will fall into disarray. With the introduction of digital libraries, the library profession is changing. Librarians and their staff must prepare themselves for the transformation from an era of scientific management to systems and structural management. It is combination of functionally related computer systems and sub-systems where conventional practices will give way to innovative organizational managerial formats.

While planning for the change from traditional to computer based systems, it is necessary to take it in stages. Some of the points to be considered are: anticipated traffic to flow over the network; origin and destination of that tariff; types of applications that will be made available on the network; and set procedures if part of or the whole network fails. Apart from organizing materials in a format suitable for computers, it is necessary to develop safe methods to provide uninterrupted service. Sufficient fund allocations should be made for maintenance purposes, which is not only a high cost but also recurring.

In the initial stages, librarians have to overcome psychological aversion from both users and support staff. It is easier to overcome the difficulties of the former than the latter, the staff fear not only displacement but removal from services. The answer to this is in giving due
emphasis to in-house training. Appropriate instructions and roles assigned to each will help not only in building confidence but also in emphasizing inclusion in the whole development process.