Chapter 4
Preservation of Digital Information in Library and Information Centers

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ABSTRACT

Preservation of digital resources in the 21st century has been a great challenge for library and information professionals. Digital libraries have been built all over the world. Libraries are engaged in creating and maintaining digital libraries. One of the main challenges in maintaining digital libraries is the digital preservation aspect. The aim of digital preservation is to ensure that digital records are filed and are made available through time. Digital information preservation is always the thinking of library and information society. Preservation of digital documents has now become more obvious and necessary because of the fragility of digital data and software and hardware platforms becoming obsolete. The present chapter focuses on the digital preservation, strategies, policies, functions, current activities, and guideline of digital preservation of information.

INTRODUCTION

Digital preservation is a broad term used to describe both the maintenance and the safeguarding of a digital resource in to the foreseeable and the distant future. Digital preservation is a vital part of the creation and management of any digital collection.

It has been clear for some time that the preservation of information in digital form will require more than just the preservation of the digital bits and bytes themselves. It has been widely assume that if digital information to remain understandable over time, there will be a need to preserve information about the technological and other contexts of a digital object's creation and use. In the past, this was some time assumed to mean the concurrent preservation of all of the relevant documents that might be associated with a digital object. The digital world challenges our notion of presentation (Springer, 2012).

The general outline of digital preservation challenges is well established. Digital materials are especially vulnerable to loss and destruction

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because they are stored on fragile magnetic and optical media that deteriorate rapidly and that can fail suddenly from exposure to heat, humidity, airborne contaminants, or faculty reading and writing devices. The introduction of digital technologies into the processes of production, distribution, and storage of information, challenges the capacity of libraries, archives, museums and other culture institutions to carry out their responsibilities for preservation (Hedstrom & Montgomery, 1998).

WHAT IS PRESERVATION?

Preservation itself is primarily concerned with the survival of information in a usable form for as long as it is required. Preservation is not just concerned with the conservation or restoration of physical artifacts, but includes all of the strategic and organization considerations that relate to the survival of information over time.

Preservation is anything beyond data means that we also have to preserve other things the communication of the information, the context of the document, the integrity of the record, and the value of the archives.

Preservation encompasses a wide variety of interrelated activities, such as policies, standard, procedures, process, etc. designed to prolong the usable life of human artifacts, Preservation will not happen naturally. In essence, preservation is costly and takes a lot of time and effort. Preservation is a continuous obligation (Sharma & Bhardwaj, 2009).

WHAT IS DIGITAL PRESERVATION?

While information traditionally available in print has been stored for thousands of years there is a fear that digital information is in danger of being lost within decades. Digital preservation can be seen as the set of processes and activities that ensure information which now exists in digital formats is backed up and distributed to ensure continued access for the long term (Oxford, 2012).

Increasingly, the information that support learning, scholarship and research—its raw materials and products—is created in and provisioned by digital systems in digital form. The digital preservation field is concerned with maintaining the accessibility of that information over time and digital preservation services attempt to lower the risk of that information becoming practically inaccessible (Sulstanford, 2012).

1. **"**Digital preservation is a process of ensuring that a digital object is accessible over the long term," according to *Glossary of LIFE.*
2. "Digital preservation encompasses a broad range of activities designed to extent the usable life of machine—readable computer files and protect them from media failure, physical loss and obsolescence," according to *Trusted Digital Repositories (TDR).*

STRATEGIES

Preservation strategies in academic and research libraries are not new concepts. However, with an increasing amount of digital content, organizations have to cope with a new set of preservation issues.

Digital preservation is in its infancy worldwide and presents some difficult technological issues. Since the creation of digital media, over different storage mediums have been invented ranging from magnetic tape to CD-Rom. Each of these mediums presents a variety of their own preservation issues and also requires a diverse range of technology which in many cases is no longer manufactured. In addition to this, there are thousands of different formats in which data can be stored on each medium; and each type of storage format may also require a specific piece of software to interpret the data's meaning (Digital Preservation Strategies, 2012).