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Digital Preservation Strategies: A Case Study of Two Academic Libraries in Indonesia

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Abstract

The aims of this research are to describe digital preservation strategies conducted by two selected academic libraries in Jakarta and Bandung, Indonesia. This research uses the qualitative approach with data collection method through interview. The results indicate that respondent libraries have made efforts to implement digital preservation activities, in order to protect their digital data and collection. This study recommends that the lack of official policy according to digital preservation should be followed up by providing a preservation policy.

Keywords: Digital preservation, Indonesia, Academic Libraries, digital preservation policy

1. Introduction

Digital preservation is not a new issue in the libraries. Along with the growth of digital collections in the library, there is an urgency need for the library to take some important measures in order to preserve their digital collections as well as printed collections. Association for Library Collections and Technical Services (ALCTS), American Library Association (2007) defined that *digital preservation combines policies, strategies and actions that ensure access to digital content over time*. The strategies covered the content creation, integrity and maintenance. In order to fullfill the goal of digital preservation in the libraries, many aspects needs to be considered and well prepared. Regarding to the preservation strategy and planning, Foot (2006) explained that *we need to establish what programmes and resources we already have, whether we can use them, and how effective they are*. In the other hand, Li and Banach (2011) also stated that lack of sustainable funding and adequate staffing could present an obstacle in implementing successful digital preservation programs.

Research on digital preservation strategies in the libraries have been conducted on various aspects. Pozo, Long and Pearson (2010) in their paper proposed preservation actions which considered most appropriate for the National Library of Australia and other institutions to protect digital objects. Oehlerts and Liu (2013) elaborated experiences in implementing digital archiving and preservation practices at Colorado State University Libraries. Their research also highlighted that collaborative approaches should be considered for those institution with limited resources in implementing digital preservation actions. Rinehart, Prud'homme and Huot (2014) also underlined the importance of collaborations to implement digital preservation with restricted resources. Nworie (2019) explored that

preservation strategies implemented at the university libraries in South East, Nigeria are in line with the UNESCO (2003) Digital Preservation Guidelines. However, Nworie (2019) also recommends that infrastructure and facilities of the digital preservation in the libraries should be available and upgraded regularly. Consortium among university libraries is also considered important to share information and knowledge regarding to the digital preservation programmes.

2. Objective of Study

The objective of this research is to describe digital preservation strategies which conducted by the two selected academic libraries in Indonesia. This research elaborated aspects of digital preservation which covered:

1. Digital collection back up strategy implemented by the respondent libraries;

2. Identification of digital disaster experienced by the respondent libraries;

3. Availability of policy on digital preservation;

4. Funding;

5. Human resources.

3. Methodology

This research uses the qualitative approach with interview method to gather data. Two academic libraries were selected from public (government) and private means. The criteria for inclusion as follows:

1. The library has digital collection

2. The library conducted digital preservation practices

3. Willing to be respondent

The interview questions include questions about the identification of number, type, and access to the digital collection, preservation digital activities, identification of digital disaster cases that occured, availability of policy on digital preservation, funds, and human resources. The interview was conducted in the Indonesian language. Below is the information about respondent libraries (table 1).

Table 1. Respondent Libraries

Respondent Library	Location	Status
"A" Library	Jakarta	Private University
"B" Library	Bandung	Public University

4. Analysis of Data

4.1 Types of Digital Collections and Access

Based on data collection, it is known that print-based collections are still the main priority in the collection of libraries. Both of respondent libraries manage digital collections by less than 25% over the entire collection (see table 2).

Table 2. Digital Collections Managed by Libraries

Respondent Library	Total Number of Digital Collections	Types of Digital Collections
"A" Library	Less than 25% are digital collections	E-journals, research result (thesis, dissertation), documentation of campus internal activities (in the form of CD and

	DVD)
"B" Library	Less than 25% are digital collections	Simple text, e-books, e-journals, research result (thesis, dissertation in soft file and CD form), documentation of campus internal activities (in the form of CD and DVD)

Based on the table above, the type of digital collections managed by both of respondent libraries include simple text, various web pages, electronic books, electronic journals, documentation of research results in the form of theses and dissertation, as well as documentation of campus internal activities. Access to digital collections managed by libraries can be done through intranet and internet networks. From the interview with respondent library "A", it is also known if the user wants to access the digital collection in the form of a CD, they must ask the librarian first or contact educational technology unit which is under library management. The library also provides access to digital collections which can be accessed online.

4.2 Backup strategy of digital collection

Kahn (2004) explained, to avoid the data loss and ensuring access, regular backups are important to do. The methods implemented are depending on the amount of data holdings, frequency of back up and the critical level of the data. Based on the interview, it is known that whole respondent libraries backup their digital collections on a regular basis (see table 3). Both of the libraries also perform the monthly backup activity. Based on the interview results, it is also known that respondent library "A" store backups of digital collections in a

special PC and offsite server, whereas respondent library "B" keep their digital collection of backups on external media saved on the offsite storage building. Separate back up storage shows that libraries take preventive measures to protect their digital collections.

Table 3. Backup Frequency

Respondent Library	Backup Frequency	Backup Media Storage
"A" Library	Monthly	Using special PC and offsite server
"B" Library	Monthly	Using external media which are stored in offsite storage buildings

Based on the survey results, it is also known all respondent libraries use an uninterrupted power supply (UPS) on computer systems in libraries. Zaveri (2015) stated that one of the methods that can be implemented in reducing the risks of digital disasters in libraries is keeping UPS connected to key servers and equipment. All respondent libraries checking the power source regularly. Both respondent libraries also stated that they use antivirus to protect the software and password to enter the system. The use of password assessed as one of the library preventive measures to ensure the security of digital data.

4.3 Identification of previous digital disaster

Considering from the digital disaster cases experienced by the library, both of respondent libraries stated that they had experienced a digital disaster. The types of digital disasters are among the computers affected by viruses and damage to the hard drive on the computer. Damage to computer hard drives experienced by respondent library "B" has resulted in

some of the digital data owned lost. Fortunately, libraries still keep backups on external hard drives and Pen Drive, so that important library data can still be saved.

4.4 Availability of policy on digital preservation

Association for Library Collections and Technical Services (ALCTS), American Library Association (2007) stated that *digital preservation policies document an organization's commitment to preserve digital content for future use; specify file formats to be preserved and the level of preservation to be provided; and ensure compliance with standards and best practices for responsible stewardship of digital information*. While respondent libraries were asked about the availability of policy on digital preservation, it is identified that both respondent libraries do not yet have a digital preservation policy. However, respondent library "B" stated that they have standard operating procedures (SOP) in implementing digital collection preservation activities. This SOP is performed on ISO 19001 standards, where there are special procedures for storing electronic data, whereas the respondent library "A" stated that they do not have policies and SOP related to digital preservation. So far the respondent library "A" runs digital preservation activities based on instructions from the head of the library.

4.5 Funding

Based on the interviews, it is known that the two libraries have not allocated any special funds for digital preservation. The existing conservation fund is incorporated into the collection conservation activities in the library as a whole. In order to optimize digital preservation activities, it is better if the library can make an estimate of the necessary costs

associated with digital preservation. Estimated costs that have been made can be discussed with university leaders so that libraries can allocate special funds for digital preservation.

4.6 Human Resources

Based on the results of interviews with both of respondent libraries, it is known that both of libraries have no special division in the field of conservation. Both of respondent libraries also revealed that the librarian in thesis and dissertation repository field will coordinate with IT departments to back up their digital collections. However, the limitations of human resources become one of the obstacles to perform all digital preservation work.

5. Conclusions

Based on the research result, it can be concluded that all respondent libraries have made efforts to conduct digital preservation activities eventhough with limited human resources to perform all digital preservation work. The lack of official policy according to digital preservation should be followed up by providing a preservation policy. Foot (2006) suggested, *it is useful to start a preservation policy by stating the scope of the policy first, and followed by a statement of the aims and purposes of the institution and of the purpose and function of the collection.*

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