Conference Paper

Art Archives Digitalization in the role of Preservation and Dissemination of Knowledge in Art Higher Education Institutions in Indonesia

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Abstract

In 2017, through the Research and Community Service Program, the Bandung Institute of Technology funded a proposal for a data and analysis center for Indonesian visual art studies. The proposal came from the Aesthetics and the Art Sciences, part of the research group of the Faculty of Art and Design at Bandung Institute of Technology. The project subsequently developed into a digital repository containing data related to the works, studies and profiles of artists from Bandung School (now the Visual Art Study Program) from the 1940s to the 1990s. Even though new initiatives proceed at a slow pace, CIVAS (Center for Indonesian Visual Art Studies) operates two of its functions, to preserve knowledge and to disseminate knowledge as a center for archive and art studies. It also serves to build organizational memory as an institution. This research is a qualitative study using an analytical approach and applying it to a case study descriptively. To conduct an analysis, this study uses several theoretical approaches including digitization as an attempt to preserve and disseminate knowledge. This study seeks to identify the opportunities and problems faced by practitioners in digital art archiving activities especially in higher education organizations. This paper concludes that the main purpose of digitizing art archives is to produce an effective method for the disseminationof knowledge.

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1. Introduction

Kathleen Azali in her article titled *Digitalising Knowledge: Education, libraries, Archives* (2018) highlights two aspects that shape libraries and archives in Indonesia. Besides the climate problem that cause the natural damage to a specific archive medium, Azali analyzes and highlights the socio-political precedent of library activities and archiving as knowledge construction. In addition, the complexity of archiving activities in Indonesia is

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also shaped by geopolitical conditions and language diversity in many tribes, especially in the classification of standards. (Azali, 2018) Another problem according to Azali, what also significantly shaped archiving activities in Indonesia, is the low interest in reading (*minat baca*), and the culture of archiving which results in a lack of awareness of the preservation of science through this activity. In addition, Azali also highlighted the lack of funding, archival material resources, human resources and the absence of experts.

According to the perspectives about the nature of archiving in Indonesia, we can notice Bandung as well as other cities in Indonesia in a tropical environment have relatively high temperatures and humidity. This climatization aspect has emerged as a major problem in archiving, but at the same time it also forms a unique activity. Digitalization have been considered as a significant solution according to this environmental issue. Digitalization technology in that sense also fast becoming the core of life, work, culture and identity in Indonesia says Jurriëns and Tapsel in introduction to *Digital Indonesia: Connectivity and Divergence*. (Jurriëns & Tapsell, 2017)

Digitalization if so, not only paused the aging of the archives caused by nature but also created a particular archiving method. Preservation problems regarding physical archives can be overcome by acquainted with the characteristics of the medium regarding to specifically comprehend how the treatment should be given. For example, high acidic paper has ephemeral characteristic and will immediately aging specifically causing by contiguity with oxygen and humidity. The paper medium must be stored in a special acid-free envelope, dry and a stabled temperature storage. Digitalization in this case is one of the most effective solutions, low cost and environmentally friendly. Its slowing medium and material aging and changing archive to be more accessible. Digitization archives as a method is a relatively new and its developed along with the rise of digital technology. This particular method is not always without any problems. Digitalization faced problematic dilemmas such as it is highly dependent on technology advancement, and access security of the data. It's also nolens-volens influenced by the way people accessing and disseminate digital data.

Seamuss Ross in his article entitled *Preservation Requisition and Sustainable Digital Libraries* (2005), in the beginning of the sections mentioned that digitalization as a contemporary essential recruitment has changed the way people produce, disseminate, use and function the information and knowledge fundamentally. According to him the transformation requires an effective form of digital preservation, including the curation process as part of the development of knowledge-based infrastructure. (Ross & Hedstrom, 2005) This article aim to outline the potential and also the dilemmatic conditions faced mainly by digital archiving activities in the art academic institutions

in Bandung, Indonesia. Moreover, this paper will introduce as a case study of a digital repository, which is a part of art archiving activities in Bandung Institute of Technology. The analysis will conclude the main functions of digitizing art archive as an effective form to disseminate knowledge, in the organizational and extensive academic level.

2. Methods

This research is a qualitative study using an analytical approach to a case descriptively. This research is based on a case study of CIVAS (Center for Indonesian Art Studies), an art archive repository developed by the Aesthetic and the Art Sciences, a research group of Faculty of Art and Design, Bandung Institute of Technology. CIVAS will be analyzed by looking at its functions in preserving and disseminating knowledge in a digital platform. The main focus of CIVAS is organizing collections, archiving data and activating records into moving knowledge. The analysis is based on a study of several sources related to digital preservation and archiving.

3. Digitalization Dilemmas (The Potentials and Paradoxes of Digitalization)

Digital archiving is an urgent need at this time. Digital data is considered easier to manage and requires more practical storage space, so it argued to be low cost and more environmentally saver. Digital archiving basically requires steps that are divided into several workspaces including; data identification, collection, storage, access system, and knowledge development.

Through Su-Ching Chen's article entitled *The Paradox of Digital Preservation* (2001), it was written that traditionally, preservation activities meant saving without changing anything, even though in reality, the digital environment had fundamentally changed our conception about accessing and using data. Physical data has a laxity regarding to cost and the needs of space. Archive spaces in non-profit organizations has maximize this kind of archiving method. Digitalization provides not only space and cost efficiency, but also has more tranquil access.

Digital media become a solution in conservation and data collecting, but it is not impossible that the medium is ephemeral. When it comes to digital media, we face a paradoxical situation, on one side, it converts the data into more accessible form. But on the other side, it requires some specific decoding technology to be obtained. It has high dependence on technology sophistication. For example, shifting into digital

form not only opened the data access but also change its context. Imagined a book full of information could be accessible for such a long term, without losing its context significantly. Compare it with digital medium such as compact or floopy disc which is not only deform digitally but also change the way it is accessed. This rapid technology development keep change the opportunity to use data.

Chen supported these opinions, he argued that this situation creates a paradoxical situation in the effort to preserve data digitally. On one hand there is a need to preserve and preserve information digitally, but besides that, on the other hand there is also a requirement to access it dynamically. This situation has created a tension between context creation activities and their access and use, and this has become a major challenge in digital archiving research and efforts. This can be overcome by analyzing needs related to content, format, context, storage media, technology systems, workflow processes, and metadata policies. (Chen, 2001)

The most problematic issue is connected with the needs of context since other requirements in digitalization become more technical. Context related to data condition when its first approached. Whether the data is in digital format at the first place? or digital deformation change the data into a digital format? This determination determines the preservation method specifically. At least there is three main elementary regulations of preservation related to context refers to Chen. First the creation context provides the information content that must be preserved. Second, it captures this information in specific formats and styles essential for maintaining the information's authenticity. Third, often we need to know the contextual circumstances in which the digital information is created—especially who created it, for what purposes, and how they organized and processed it—to understand it. (Chen, 2001)

First regulation based on that standpoint is content creation in digital preservation, related to maintaining authenticity from the information and context. Referring to that perspective, content becomes the other main issue in digital preservation. When we faced analogues archiving with physical data it means the access will be easier to approach. But one we confront with digitalize data we should realize what is the meaning of the preservation process at the first place. In addition to object or data entity trans-formation, modification, or grow we have to analyze what actually the significances of digitalization itself. Second regulation is the development of information technology that makes the data and storage deformation change and grow into new realm. New format emerges generate brand new challenge especially in decoding and data compression in digital preservation. Third related with research approach that connect to context circumstances or we could say data intensify in the needs to define the information.

Digital preservation has to comply with those three senses. The activity always come up with paradox and dilemma situation, but the main things are the archivist and archive practices we have to aware and trying to change the situation to become a potential solution.

4. Archiving Purposes in Art Organizations

Archiving as an activity not only related with preservation of knowledge but also there are another aspect connect with institutional intention. Archiving related also with the aim to building organizational memory. Mapping the functions and purposes of archiving in art organizations can generally be divided into three categories, first is the collection function, the second is the contribution function and the third is the administrative function.

1. The collection function is related to data and archives owned both physically and digitally that are stored and collected because of the purpose of knowledge (research), preservation or historical value. The collection data also ephemeral, and not all of them can be stored forever, this depends on the assessment to each medium. Therefore, the scientific history and reading of each archive is needed. If a data or archive is declared to have no value of knowledge, or significant history for the organization, it should be immediately demolished or granted to another institution that is needed. This also relates to space efficiency and storage costs. It should be remembered that as archivist, the data is not owned to our personal property but belongs to the institution and must be used for the needs of the institution itself.

2. The contribution function is related to what the organization wants to give to the community or science itself, all of which must be based on priorities. It should be emphasized that the archive will be more valuable if it can be accessed and used for broader needs. Besides that, the focus of this second function is the system of access and regulation of data users.

3. Administrative functions related to the organizational data such as financial documents, policies, correspondence and so forth. This aspect is also related to the legal aspect when carrying out archiving activities, the history of institutions and work files. This legal data must be easily accessed and shared at least with members of the organization as a form of transparency.

These three functions will then become the basis for determining the direction of archiving activities. As an organization, archiving activities should covers all three functions in a manner of balance. Archivist also have to determine what is the purpose of the organization, what does it exist to do? So, all the effort and data collecting activities become parallel with the goals of the organization. Building organizational memory is very central and related to archivist role in an institution.

5. Center for Indonesia Visual Art Archive (CIVAS)

There were two major problems regarding digitalization based on chapter 3, first related to technical issue, paradoxical situation between accessibility of the digital data and need for specific decoding technology to obtained and high dependency on technology. The second was related to content issue, more specific the need of context means maintaining authenticity from the data and information. Also related to questions; what's the meaning of the preservation process at the first place, and what's the significant of the digitalization itself. These two central issues require basic needs that focusing on the function of digitalization in Art Organization that were described at the chapter 4. First the collection function to promote knowledge for research, preservation, and historical value, needs medium assessment, and data appraisal. Second, contribution function needs mapping priorities on who can or need access to the data, it leading to accessibility. Last, administrative function that needing internal accessibility that leading to transparent data for the member of the organization.

CIVAS at the first place was built only for repository needs, to keep the data and nothing further than that. Center for Indonesian Visual Art Studies which is managed in the Aesthetics and the Art Sciences, a research group of Faculty of Art and Design (FSRD), Bandung Institute of Technology (ITB). This project not only produced a comprehensive analysis of the historical archiving and preservation system but also provided an overview of the development of art studies in Indonesia. In its implementation, the project involved several parties in an ongoing partnership. The partnership was established between Aesthetics and the Art Sciences, Soemardja Gallery, Faculty of Art and Design Library, Directorate of Technology and Information Systems (Dit STI) and Bandung Institute of Technology itself. CIVAS also exploring the possibility of collaborations, so far with Indonesian Art Archive (IVAA) and Asia Art Archive (AAA) through several activities such as workshops, research visit and academic discussions.

This project has received full funding from the Research, Community Service and Innovation (P3MI) ITB since 2017 until 2019. The project has succeeded in establishing

a work of infrastructure for data collection in the form of repository. Digital data collection room equipped with a core i5 3.3 Ghz, 8GB, 2TB, AMD Radeon R9 M395 2GB LED 27 "Retina 5K Display, as the main controller integrated with all computer devices placed in access spaces. This data center uses a server with a capacity of 1 terabyte as a backup while the whole system will be integrated with the ITB virtual server.

5.1. CIVAS on Medium Assessment and Appraisal

CIVAS collecting only digital format on the repository based on several activities including; capturing, storing, and provide access for data analyzing. Capturing data means directly gathered the data to the source such as the artist's studio, visit his family or come to art events like exhibitions, art fairs, and so forth. Second is storing data which is divided into two parts, the first is storing data manually, the second is digitally (before the digitization process, data sorting is usually done manually). The last is provides access for data analyzing on research purposes. These activities considered three basic regulation in digital preservation. The archivist in CIVAS pay attention to how the content are creates and in what senses the digitalizing in needed to some particular data. Second, CIVAS maximize the information technology, from the basic needs of storing and accessing data. Last, CIVAS conduct context circumstances through research particularly in art and art history studies.

Digitalizing is fundamental activities, since CIVAS minimizes physical data storage by considering space, cost and ephemerality of the physical data. When treating and storing physical data life cycle assessments must also be carried out which will make it easier to sort and carry out for conservation. After scanning or taking photos, physical data will be sorted manually or returned to the owner. This process takes a very much long time, and also must be done specifically. Some physical data cannot directly contact with human skin, or the camera flash, so handling and lighting must be carefully considered. CIVAS also take the partnership advantage with Soemardja Gallery and the library to preserve physical data if its needed.

Digitizing for CIVAS has two aspects that sometimes intersect, the first activity provides more dynamic space in data storage, but also creates a number of dilemmas, as explained in the previous chapter. To overcome this problem, for now CIVAS regularly checking for potential viruses and bugs, hardware damage and also file backups at the back-end system. CIVAS currently using File Transfer Protocol for accessing and data backup.
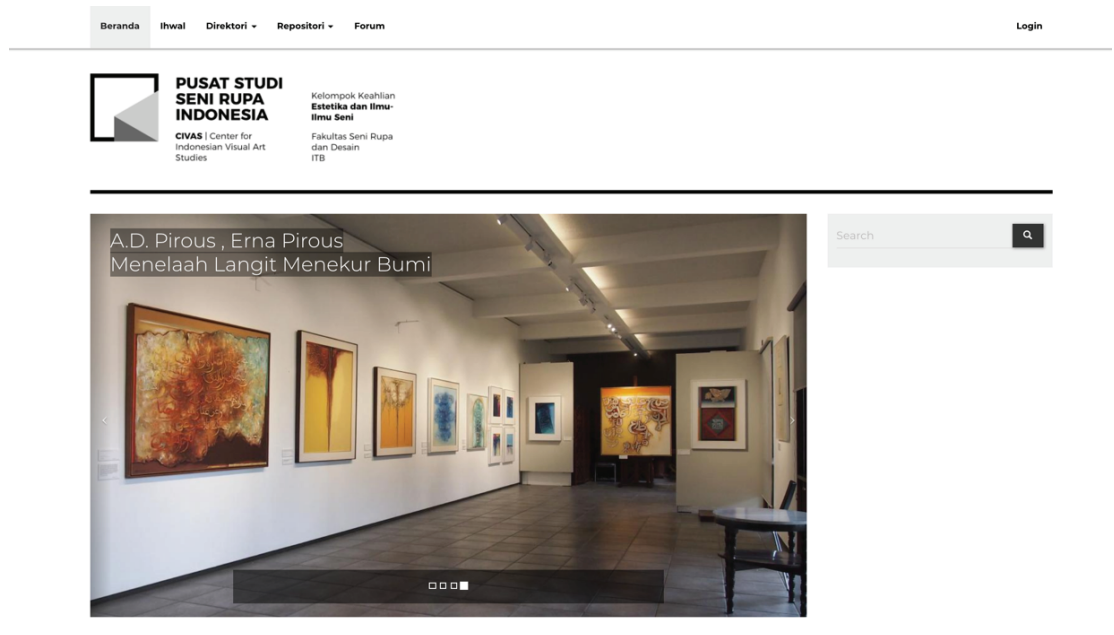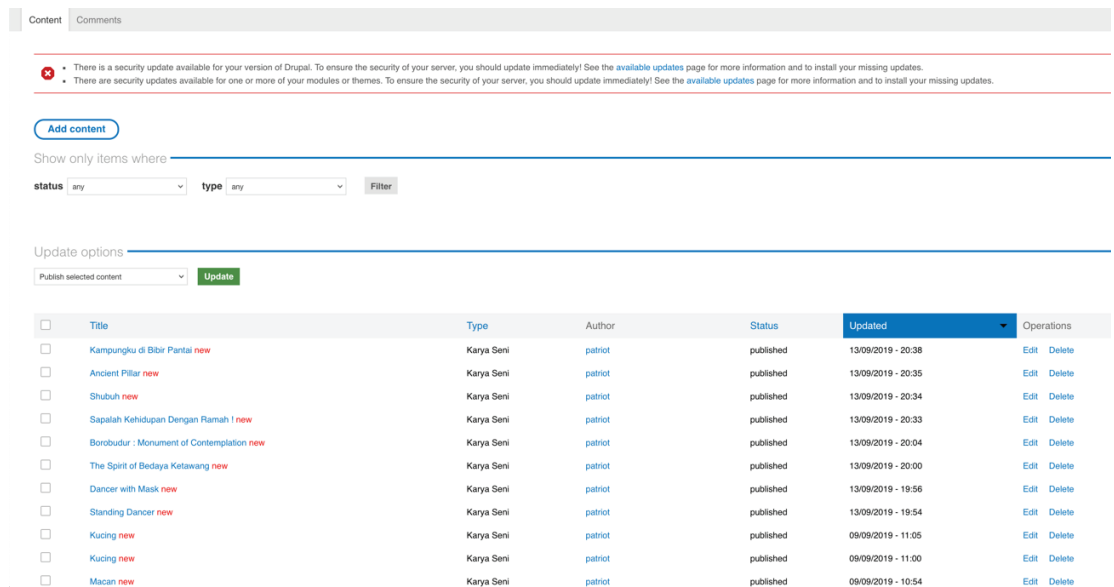
Figure 1: CIVAS Front-end Display

Figure 2: CIVAS's Back-end System

5.2. CIVAS on Mapping Priorities and It's Accessibility

CIVAS digital database contain work of arts, academic researches, academic articles, historical photos, and administrative documents about the organization. The reasons were that CIVAS need to support the need not only for wider user but also the member of the organization itself. CIVAS priorities are visual art researcher, student, and general public who have such interest in Indonesian Visual Art and history. CIVAS recently create special project with some research fellow, the project digitalizes specially only
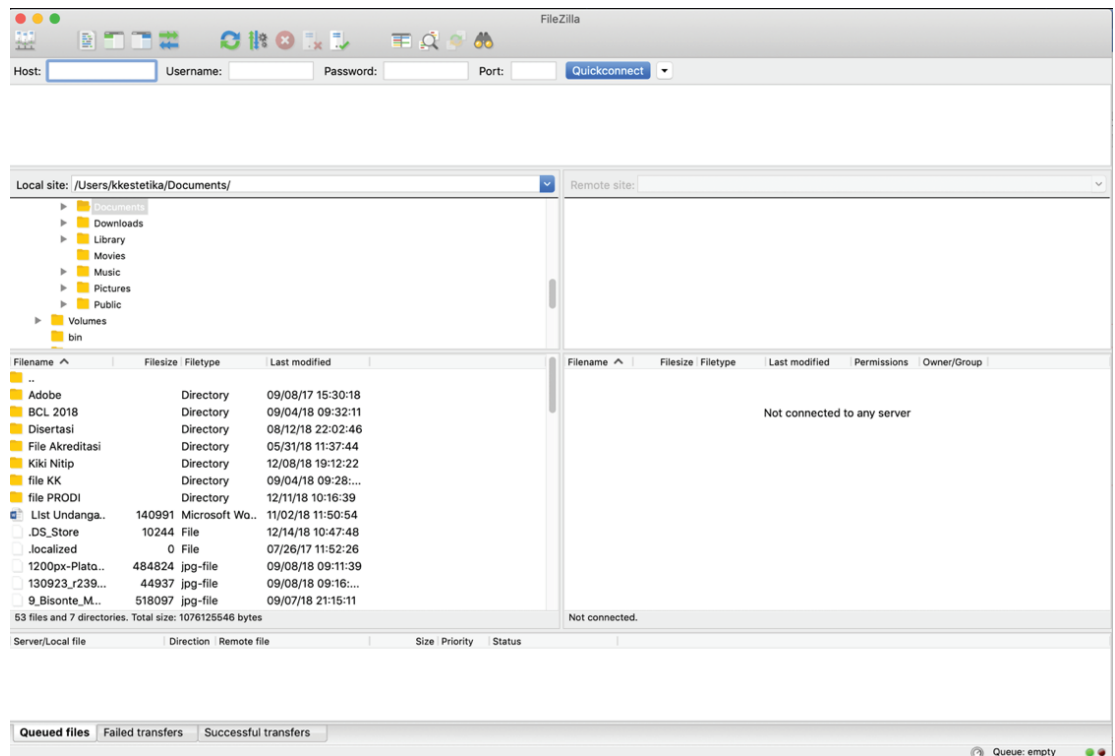
Figure 3: CIVAS'S File Transfer Protocol

one figure of the Bandung School each time. This data will be available only for onsite research. The database is stored in virtual server and listed in a simple spreadsheet using excel and shared with the team. The data is accessible in their website 24 hours a day, but some archives need special permission to be obtained.

The team itself is very small group consist one art historian, two archive specialists or archivists, a technician, and some interns. CIVAS cooperate in two, first as an archive and art studies center and second as a part of academic organization that have its own several function. As a part of an organization, CIVAS cooperate in three basic functions: collection, contribution, and administrative function. As archive and art studies center, CIVAS functionate to preserve and create knowledge. These two parts of operations construct a particular shape of activity.

5.3. CIVAS on Building Organizational Memory

As part of the Art Organization in this case is an art school, CIVAS also have the role to build its organizational memory. However, CIVAS have to fulfill its institution expectation. to build organizational memory, CIVAS also collecting archives that has the protentional historical values for its institution. These archives including administrative

Figure 4: CIVAS Database Example

papers, financial report, project proposal, etc. These archives have retention schedule and will be eliminate and appraise every five years and so.

6. Conclusion

Digitalization is the logic consequences of technological advancements and developments that change and form the current activities of collecting and accessing data. Digital platforms provide possibilities for people to share information no exception to knowledge and academic data based. As a preservation initiative the Center for Indonesian Visual Art Studies (CIVAS) maximizes the digitalization and all its activities to contribute in society. CIVAS activities has two main functions, not only collecting and disseminate knowledge to the academic community and the general public but also institutionally building organizational memory through the collection. In this activity, CIVAS not only activates its function externally to preserve and disseminate knowledge but also internally as part of an academic organization. Digitizing for CIVAS is an effective form to create and spread knowledge, in the organizational and extensive academic level.

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Conflict of Interest

The authors have no conflict of interest to declare.

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