



## Implementation of Information and Communication Technology (ICT) System In Archive Management at Priangan Muhammadiyah Elementary School In Bandung City

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ABSTRACT	ARTICLE INFO
<p>The rapid development of technology in the current digitalization era has a positive impact on the smoothness and ease of carrying out various activities of educational organizations, one of which is archiving. . By maximizing the use of Information and Communication Technology (ICT) systems in archival management, it will facilitate the process of finding the necessary data, documents or archives. One of the problems faced in some educational organizations is the management of archival documents that are still manual (looking one by one) and conventional. Because the storage is still simple (such as in boxes, or paper folders and placed in display cases that are not in accordance with archive storage security standards, these things are also a threat to archive documents because of the vulnerability of the storage place and will not protect the archive when exposed to dust or exposed to natural disasters. So training was given to teachers and administrative staff (TU), especially at Priangan Muhammadiyah Elementary School in Bandung City. By using a qualitative research method with a descriptive approach, meaning that the author goes directly to the field. To collect valid and objective data, the author uses data collection techniques by means of observation, interviews (interviews) and documentation. The solution found is that with the existence of ICT-based archival management with the digitization of document archives, search capabilities and file sections can be easily found and retrieved for reuse. Data viewing can also be used as a backup plan in the event of damage to files or archive documents so that they can be restored. Therefore, this activity is expected to help manage ICT-based archive management for schools to improve time efficiency and limited human resources.</p> <p>© 2023 Edulib</p>	<p><b>Article History:</b>  <i>Submitted/Received Aug 02, 2023</i>  <i>First Revised Sep 30, 2023</i>  <i>Accepted Nov 15, 2023</i>  <i>First Available online Nov 16, 2023</i>  <i>Publication Date Dec 01, 2023</i></p> <hr/> <p><b>Keyword:</b>  <i>Archival Management,</i>  <i>Communication and Information,</i>  <i>Technology Implementatio.</i></p>

## 1. INTRODUCTION

Every organization needs good and correct management or management. Good management is necessary for all types of activities in an organization, both large and small. A good organization can be achieved if the departments function optimally. A good organization has management functions, namely Planning, Organizing, Acting and Controlling or known as POAC. Each of these functions is interdependent and forms a unified whole. An organization will achieve its goals well if it can plan its programs carefully with a vision of the future and implement the plans that have been made. Organizational planning is a fundamental management process that aims to formulate goals and how to achieve them so that planning has a greater role than other management functions. The larger the organization, the better management skills are needed, especially technical skills, because all the work in the organization cannot be done alone.

Management techniques are also evolving rapidly. New knowledge and techniques led to new inventions, creating an environment where work could be done efficiently and provide previously unimaginable satisfaction. Likewise, the development of information and technology that is increasingly advanced has an impact on the public's need for information which is increasing. Information is some data that has been processed or processed by data processing procedures to check its correctness and usefulness when needed (Soemarmo, 2002).

Various types of documents and media have been created to make it easier for humans to store, retrieve and disseminate information. These documents are better known as archives. Archives in Indonesian terms are written records in the form of images or graphics that contain information about a topic or event made by people to help those people (Barthos, 2012).

In Indonesia, some organizations, especially educational institutions, have not paid much attention to ICT-based archive management (information and communication technology), so the products produced are mostly paper archives. This results in a large volume of paper archives, causing many problems related to the increasing number of archives, investment in storage media, limited storage space, large storage space requirements, complicated document searches, easily damaged paper, and inadequate delivery of documentation between employees quickly and efficiently. If there is a mistake in document management, it will waste money, time and energy.

Archives that have been created and received by the organization must be managed in a filing system that is in accordance with the type and function of the archive. With the demands of the times and circumstances, the activities and goals of the organization continue to change, as does the number or volume of documents produced and received by the organization or agency. Whether to be used to search for archive or letter logs/agendas, archive/letter numbers, etc. seems to be slower. This condition requires an archiving system that uses SAMURAT or Mail Management Administration System. With an archiving system that is on demand, simple and easy to set up, it is hoped that documents or archives that are of value to the organization can be used optimally, quickly, accurately and precisely found. Archive files that are no longer suitable for use can also be quickly disposed of.

The work or activities involved in records management is known as records management. Processing archives/scripts containing information from creation until the document is declared to be retained or to be destroyed (Dewi, 2011). Archives play an important role as memory centers, information sources and monitoring tools. To be able to present complete, timely and accurate information, a good system and work procedure in the field of archives

is needed. Therefore, it is necessary to optimize and improve archives so that they can function properly, efficiently and effectively.

The emergence of ICT (Information and Communication Technology) as a computer medium is also a reason why archives must be managed electronically. With the existence of electronic facilities such as computers, the process of managing and managing archives will be easier and less time-consuming to facilitate the process when finding the necessary archives again. The use of ICT can transform conventional archives into digital archives or ICT-based archives. Computers are also capable of storing large amounts of information that can be retrieved on paper or on screen. The time it takes to retrieve an archive also varies depending on whether or not the archive file is already online, but the time it takes for the information to appear on the screen is only a few seconds (Mills, 1991).

Indeed, the management of electronic archives or ICT-based archives (Information and Communication Technology) clearly requires specialized knowledge and skills in management, storage, and computer knowledge. Therefore, there needs to be smooth coordination between archivists as archivists and programmers as IT experts to create a good electronic archive management system, in order to change the public image that archives are more than just piles of paper that fill the workspace.

In addition, there is the issue of maintaining archival databases, including information in computer archives that can easily be changed, modified, deleted intentionally or not by humans, or viruses corrupting files. In addition, the more users an archive has, the more likely it is that the lifespan and durability of the archive, whether physical or digital, is limited. The importance of the information contained in an archive stored on a computer or in a cloud database system can be easily accessed by many users, especially when they already know the file name.

In the database, the computer can view existing files. There is also a feature to be able to edit or delete archive files. For this reason, the school as an organization needs to improve and perfect the management of archive management and archive storage so that it can function properly and can help in achieving the success of achieving the goals of the company, office, agency or organization.

SD Priangan Muhammadiyah Bandung has implemented an ICT (Information and Communication Technology) based archive management system called the Mail Management Administration System or SAMURAT (Amelia, 2022). Messages entering and leaving the school are stored as files in a special computer system. Where as three computer component processes, namely input, process, and output. To run a computer, software is used or software is a program to execute commands. With good storage capacity, any employee who wants to recover data will easily find data to recover and have no difficulty.

Based on some of the findings that have been presented, further information in information and communication technology-based archival management will be studied through an article entitled "Office Management Applications in Information and Communication Technology (ICT)-Based Archival Management at Priangan Muhammadiyah Elementary School in Bandung City". Realizing the importance of information technology needs, SD Priangan Muhammadiyah Bandung made changes by using better technology in improving the quality of archive management.

### **Management Concept**

Management is the science and art of acting to achieve goals (Siswanto, 2005). Management is also said to be the process of planning, organizing, and supervising activities

carried out by members of the organization and using all the resources available to the organization to achieve the goals to be achieved. Management is also defined as activities aimed at achieving goals and the main objectives have been set by using actors (Purwanto, 2007). Management is expressed as the effective and efficient achievement of organizational goals through planning, organizing, directing, and controlling organizational resources (Daft, 2010).

Management is the science and art of managing the process of using people and other resources efficiently and effectively to achieve a certain goal (Hasibuan, 2012). Then when related to office management, Office management is the application of management functions to the office, namely planning, organizing, directing and supervising the office in order to achieve office goals and satisfied staff (Moekijat, 2008). Office management is also described as the application of management functions to office facilities and resources in order to achieve predetermined goals and objectives by best empowering employees, using office equipment appropriately, using best practices and providing a conducive environment (Maryati, 2008).

### **Archival Management**

Archives are a collection of documents that are stored systematically so that they can be quickly retrieved whenever needed (Gie, 2000). Archives are the basis for maintaining correspondence, archives contain the process of compiling and storing messages so that messages/files can be retrieved when the archive needs to be used (Sugiarto, 2015).

Archives are activities such as recording incoming letters and outgoing letters, archiving documents, determining which archives are obsolete and require efficient and effective handling and management so that operations are carried out according to the correct procedures (Aqi'ila, 2021).

Archives management is the management of archives which includes receiving, collecting, maintaining, adjusting, monitoring, compiling, and archiving through management functions (planning, organizing, implementing, and monitoring/evaluating).

Archival management is very important. This is done because the organization's repository has several functions, namely: First, as proof of ownership, such as land certificates, land certificates. Second, archives have administrative value, namely archives that can be used in the process of organizing work to achieve institutional goals, such as work schedules, job descriptions, employee jobs, task preparation guidelines, etc. Third, archives of historical value describe past events or developments, such as annual reports, minutes, or minutes of meetings. Fourth, archival materials have scientific use value, namely archival materials used for scientific development and research, such as the results of scientific works of experts, report results, scientific research by experts. Fifth, records of financial value, namely records related to or containing financial matters, such as financial statements, payment receipts. Sixth, valuable archives of pedagogical utility, such as teaching programs, subject units. Seventh, archives have useful documentary value, namely important archives with tools to be remembered forever (Wursanto, 2007).

Law No. 7 of 1971 states, among other things: (i) Manuscripts are prepared and received by public institutions and government Agencies of any kind, or in states or groups in the course of carrying out government activities; (ii) Manuscripts written and received by private entities and/or individuals in any form, either individually or in groups, in order to educate the nation.

## Information and Communication Technology (ICT)

Priangan Muhammadiyah Elementary School in Bandung is one of the elementary schools that has moved from a Catholic foundation to a Muhammadiyah foundation. This led to changes in the organizational structure, including gaps in archive management. From the initial observation conducted by interviewing Mrs. Yusfi Amelia as the Head of Administration (TU), information was obtained that SD Priangan Muhammadiyah Bandung has implemented an ICT-based archive management system called the Mail Management Administration System or SAMURAT (Amelia, 2022).

Technology is a device used by humans to solve problems that are used as process knowledge by using devices both hardware and software so that they can work easily, well and efficiently (Hedwig, 2010). Information technology also facilitates the performance of office or agency activities for employees. The advantages of information technology are very useful in the administrative field, with electronic applications in all activities easier than using technology that is still manual (Amer, 2018). From the use of information technology, it will facilitate work, increase the speed of information dissemination, broad reach and ease of access. Therefore, in today's modern era it is easy to bring about these changes, one of which is the application of good information technology. The application of data-based information technology is currently needed because of the need for real and accurate information (Andani, 2020).

Information and Communication Technology (ICT) is the result of human engineering in the process of delivering information from sender to receiver. Furthermore, information and communication technology is also related to the use of hardware and software to produce and transmit information quickly and efficiently (Fauziah, 2010). For this reason, ICT-based archive management means archive management using electronic media, namely computers, because they have a storage area or virtual cabinet containing virtual files. The virtual directory contains archive pages that have been converted to image files (\*.bmp, jpg, gif, etc.) or documents (\*.docx, txt and others).

There are previous studies used in this writing to be able to approach the selection of similar themes. This literature review is intended to present theories that are relevant to the problem under study. Therefore, it is necessary to review the literature or theoretical framework regarding the name of the thesis which will be the object of further research. References in the literature review include:

Afif Aqi'ila's thesis (2021), the results of the study concluded that the management of archive management at Madrasah Aliyah Negeri (MAN) 1 Central Lampung, has not been carried out in accordance with the stated objectives. Such as: organizing the work of archival activities, namely in the allocation of tasks that require leadership, supervision has not been carried out intensively, it is necessary to strengthen the preservation of archival documents.

Alfi Niamah's thesis (2020), the results of the study concluded that the implementation of archival document management at SMK PGRI 2 Ponorogo was carried out in accordance with predetermined objectives even though in terms of document storage there were no agents. archive keeper at SMK PGRI 2 Ponorogo. Accuracy in making, distributing, storing, and destroying archives, if at any time the archive needs to be operated again, it will be easy to find. And for archives that have expired their use retention period will be destroyed immediately.

Dian Eka Rahmawati's thesis (2019), from the results of the study concluded that in general, Aisyiyah Branch Segoroyoso, Pleret, Bantul has provided an archive management



function, although it is still not optimal. On that basis, the organization invites archival experts to provide suggestions on how to achieve good archival work.

To avoid the similarity of the discussion with the studies that have been conducted by previous researchers as mentioned above, the study of this scientific article will focus more on ICT-based archival management (Information and Communication Technology) at Priangan Muhammadiyah Elementary School in Bandung City.

## 2. METHODS

In this article, the author uses a qualitative research method with a descriptive approach, meaning that the author will go directly to the field. Qualitative research emphasizes significance rather than generalization (Sugiyono, 2013). Qualitative research is based on mathematical logic, numerical principles, or statistical methods. Words, gestures, and other real social actions are the mental material of qualitative analysis (Mulyana, 2006).

This writing is done through investigation and observation of all subjects used to reveal all the results of surveys and observations about archival management with the implementation of the use of ICT in educational organizations to maximize and streamline the management of documents, files, or files contained in the Priangan Muhammadiyah Elementary School in Bandung City. The data source is the subject from which the data can be obtained (Afrizal, 2014). If the research conducts interviews during data collection, the data source is called the respondent, namely the person who responds to research questions, either orally or in writing, such as the Administrative staff (TU) at Priangan Muhammadiyah Elementary School in Bandung City.

To collect valid and objective data, in this article the author uses data collection techniques by means of observation, interviews (interviews) and documentation. Observation is a direct observation of the symptoms of the object under study objectively and the results are recorded systematically to get a more specific picture of the situation in the field, which is why the view emerged that observation is generally defined as systematic observation and recording of the phenomena studied (Aqi'ila, 2021).

Interview (interview) is a meeting of two people to exchange information and ideas through questions and answers, so that meaning can be constructed in a certain topic (Sugiyono, 2013). This interview method is used by the author in order to obtain data information, matters related to the implementation of ICT in Archives Management at Priangan Muhammadiyah Elementary School in Bandung City. The Unstructured Interview method is a free interview where research does not use interview guidelines that have been arranged systematically and completely for data collection. The interview guide used is only an outline of the problems to be asked (Sugiyono, 2013). With the use of this unstructured interview method, the implementation is not too rigid and does not deviate from the problems to be studied.

The documentation method is a method of collection sourced from data in the form of records, books, daily reports, journals, photographs, etc. The documentation method is a non-human source, which is a resource that is quite useful because it is available so it is relatively cheap to obtain. This source is a regular and accurate source that reflects the actual situation/condition and can be analyzed repeatedly without change (Sugiyono, 2013). Data obtained from observations, interviews and documents recorded in field notes consist of two parts, namely descriptive and reflective. Descriptive notes are natural data, namely notes about what the researcher sees, hears, sees, and experiences without the researcher's opinion and interpretation of the phenomena or symptoms encountered. Meanwhile,

reflective notes are notes that contain the researcher's impressions, comments, opinions, and interpretations of the phenomena or symptoms encountered and are data collection documents for the next step (Sugiyono, 2013).

The data will then be reduced, which is an analytical process to identify, decide attention, simplify and transform data that emerges from field notes. Reducing data means summarizing, identifying important points, focusing on important things, looking for themes and patterns, and eliminating those deemed unnecessary (Afrizal, 2014). The data obtained will be systematically organized into relevant data so that it becomes conclusive information and has meaning. Thus, the data can be concluded in accordance with the research objectives.

### 3. RESULTS AND DISCUSSION

This article discusses the management of documents or archives at SD Priangan Muhammadiyah Bandung City which is done manually by storing them in boxes or folders, so there is a possibility of loss, scattered, damaged, large capacity and space requirements and the possibility of risk of damage to archives due to disasters. In addition, it requires relatively large labor, as well as a long time to search for archives. These weaknesses can be overcome by transforming archive management using information and communication technology (ICT). The solutions offered by the school are as follows:

**Table 1.** Problems and Solutions

No	Problems	Solution
1.	Document Accumulation and Still Paperbased	Implement ICT systems in archive management in the form of digital applications or <i>cloud-based</i> archive file / database storage. Training to use ICT systems in archive management.
2.	Searching for the required data takes a long time	
3.	Fragile document / file files from the threat of damage due to dust, living biota or natural disasters.	
4.	Low level of tidiness in filing files or physical documents	
5.	The use of ICT in archival management is still minimal.	

Source: Author's Data (2022)

This training activity on the use of ICT systems in conducting archival management at SD Priangan Muhammadiyah Bandung City has a result, namely the provision of training in using the ICT system provided by the training implementation team which will be directly practiced how to use it by the Administrative staff (TU) and teachers at SD Priangan Muhammadiyah Bandung City. By using a digital technology system in this modern era, the staff and teachers still have difficulties because they are not used to using the application.

**Table 2.** Outputs of each solution

Solution for Schools	Outputs Achieved
System implementation ICT in conducting management archives.	<ol style="list-style-type: none"> <li>In the training phase, it is necessary to explain the basic elements of archival management to the administrative staff and teachers at Priangan Muhammadiyah Elementary School.</li> <li>Participants who attended the training conveyed what difficulties there were when using ICT systems</li> </ol>

because they were used to doing it by writing manually, then *scanning files*, then uploading them to the *cloud system* (for example: *google drive*).

3. After knowing the above, the school with the help of ICT system expert presenters will explain how to use the ICT system to manage the archive system. Starting from the process of uploading data / archives / documents that will be modeled and carried out with the Administrative staff at SD Priangan Muhammadiyah Bandung City.

Source: Author's Data (2022)

**Table 3.** Outputs of Each Solution

Achievements	Outputs Indicator
Assist in <i>managing</i> archives/files/documents, making it easier to find teacher and student documents.	<ul style="list-style-type: none"> <li>• Effective (Time)</li> <li>• Efficient (Complete)</li> <li>• Affordable price</li> <li>• Accurate</li> <li>• Easy way to use</li> </ul> Flexible (anytime and anywhere)
Can implement information and technology systems (ICT), especially in the program of organizing and managing archives.	Manage archives, documents, or files with ICT-based systems and applications and store files centered on <i>cloud servers</i> .
Produce a system that can facilitate the management of archives, document management at SD Priangan Muhammadiyah Ko-ta Bandung.	<ul style="list-style-type: none"> <li>• Eco-freandly</li> <li>• There is no accumulation of paper.</li> <li>• ICT-based / digital format.</li> <li>• Ready-to-use files/documents/archives.</li> <li>• Easy and uniform archiving.</li> </ul>

Source: Author's Data (2022)

However, they were enthusiastic about this training because the application or digital form is easy and can be arranged according to school needs. The material about archiving was explained in detail and easily so that the participants could absorb the material, and could distinguish between conventional and digital archiving, because at SD Priangan Muhammadiyah it was still not done digitally but had been stored in the computer (in the form of scans or photos). For the sake of the continuity of the use of archives owned by this school, the training team that is recruited will try to make tutorials on the use of ICT systems, such as digital archiving applications to make it easier for TU staff and teachers to use these applications. The Training Team will also provide learning video media / documentation of activities using ICT systems, both digital applications for archive management at SD Priangan Muhammadiyah. The development of technology in the present, is expected to be used considering the current conditions of the Covid-19 Pandemic. In addition to simplifying the task, it will also make the archive cleaner and reduce the risk of loss or damage to the archive. From this training session, Administrative staff (TU) and teachers finally understood the importance of maintaining and managing archives in the school environment.



#### 4. CONCLUSION

The implementation of Information and Communication Technology (ICT) system has penetrated into all sectors of life of SD Muhammadiyah Priangan Bandung City. Including in organizations with the aim of carrying out archival management, including in managing, preserving and protecting archives from all physical damage and can support work efficiency in terms of providing information, especially at SD Priangan Muhammadiyah Bandung City. Archival management at the school is still done manually by being stored in a box or folder so that it is prone to loss, scattered, damaged, requires a large space and storage area, and the risk of damage to archives due to disasters or animals.

This ICT system will make it easier to digitize archives, with the solution of providing viewing activities in order to make it easier for Administrative staff and teachers to collect and share archived documents. The process of searching and storing data can also be done easily so that it can save time and energy in the process of searching for archives at SD Priangan Muhammadiyah Bandung City. With archive management using an ICT system, archive management can be formed with digital archives that can help organize and collect archives that have been less efficient can run efficiently and no longer require a long time to manage archives.

#### 6. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

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