

# Implementation of Electronic Archive Book to Improve the Capability of Archivist and Archive Management in Electronic Archive Management at UNIMED

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**Abstract.** Growing technology has influenced all aspects of human life, as well as the archive. Files that were previously created using paper and then stored in hardcopy are now stored in the form of files on computer devices that are stored as electronic archive. This study aimed to compile an Electronic Archive book that will be used in improving the ability of archivist and archive manager in using e-archive application. The design/methodology/approach of this research uses the Research and Development approach (R&D) of the Borg and Gall model with a combination of qualitative and quantitative research. The finding based on the paired sample test with SPSS show that t count is 2,383 > t table is 2,045, thus it can be interpreted that there is an influence that the use of Electronic Archive Book can increase the ability of archivist and archive manager in using e archive. The book originality is to present a clear procedure for the archive storage process using the Dynamic Archive Information System (SIKD).

**Keywords:** Archivist, Archive, Electronic.

## 1 Introduction

Growing technology has influenced all aspects of human life, as well as in every government and private agency. The development of technology and the increasing need for information, demands the provision of information that is faster, more precise and accurate. Archive as a source of information in every organization are useful as a tool for monitoring, accountability, planning, protection of asset and intellectual property rights, protection of territorial boundaries, regulation of information confidentiality, and providing information service to the public.

Along with the implementation of administrative activity within an organization raise the number of archive and document. The addition of document/archive due to the activity of an organization if not managed properly will cause problem that archive cannot be found, beside that the number of archive requires more equipment and a large archive space to store archive resulting from administrative activity.

Along with the development of information technology, correspondence is currently carried out online where letter that were previously printed on paper and then stored in hardcopy are currently stored in the form of files on computer device that are stored as electronic archive.

Electronic archive supports the implementation of paperless office [1]. The implementation of electronic archives will ultimately support the go green campaign and save the world. Paperless discourse and implementation of electronic archive management are poured into a number of ideas, theories, scientific studies and government policies [2]. Presidential Regulation No. 95 of 2018 concerning an electronic-based government system, that to realize clean, effective, transparent and accountable governance with the use of fund can be made efficient because there is no need to use paper (paperless) [3].

Regarding the management of electronic archive, currently archivist and archive manager at UNIMED do not understand and are able to store electronic archive. There is no manual for managing Electronic Archive yet. To improve the mastery of Electronic Archive competency in archivist and archive manager at UNIMED, it is necessary to design an Electronic Archive book. The innovative thing in this draft Electronic Archive book is that it contains theories and examples of Electronic Archive management practice. So hopefully it can be used by archivist and archive manager in carrying out electronic archive storage using the Software of Electronic Archive Information System (SIKD) at UNIMED.

## **2 Literature Review**

### **2.1 Definition of electronic archive**

The use of computer and internet technology that is so massive today demands electronic communication as well. Electronic file as a result of activity in an organization are called electronic archive. Electronic archives are archives contained in electronic storage media, which are generated, communicated, stored and/or accessed using electronic equipment [4]. The use of electronic media in archive management is often referred to as an electronic filing system based on the use of computers [5].

Archives that are created, used, and maintained as evidence of transactions, activities and functions of institutions or individuals that are transferred and processed by computer systems, are called electronic archive [6]. Electronic archives are archives contained in electronic storage media, which are generated, communicated, stored and accessed using electronic equipment [7].

The electronic filing system is designed and built based on the conventional archival management concept. Retrieval of archive quickly, accurately, and completely is the main goal in electronic archive management [8]. Some of the advantages given to electronic archive management are: 1) it is easy to operate, 2) has an attractive appearance, 3) has document search facilities, 4) records the physical location of documents, 5) has accuracy in data security, 6) there are reports of archive conditions, 8) connected to a computer network [9].

### **2.2 Electronic archive management**

According to demand of the time, archivist and archive manager must be able to manage electronic archive. To be able to carry out electronic archive management, archivist and archive manager must understand how to register incoming and outgoing letter and register inactive archive into the SIKD application. Archivist and archive manager must be able to manage electronic archive properly and correctly. Need to improve the ability to manage conventional archive as well as electronic archive [10]. Management of electronic archive is currently important, information is presented in digital form,

meetings are held online creating digital documents that must be managed using electronic devices as well [11].

Archival image is strongly influenced by the archivist's image itself, archivist have an important role that can support the performance of institution, both government and private. Entering the era of information need, archivist play an important role as a guide or mediator between the source of information and the information itself [12]. Archivist must have knowledge and skill in organizing and managing various activities related to archive management in order to facilitate the retrieval of archive when needed, related to providing optimal service to the community who use archive [13].

Electronic archive management steps: 1) Creation and receipt of electronic archive; 2) Use of electronic archive; 3) Electronic archive storage; 4) Maintenance and transfer of electronic archive media; 5) Shrinkage of Electronic Archive; 6) Acquisition of electronic archive; 7) Description and processing of electronic archive; 8) Digital preservation; 9) Access and utilization of electronic archive [14].

### **2.3 Electronic Archive Management Book**

Electronic Archive Management Book is designed according to the need of archivist and archive manager in managing electronic archive. The material in this book includes: basic concept of Electronic Archive, Creation and receipt of electronic archive, transfer of archive media, archive authentication, registration of incoming manuscript, registration of outgoing manuscript, registration of manuscript without follow-up, archive preservation, access to electronic archive, shrinkage of electronic archive.

## **3 Methods**

This research uses a research and development approach (R&D) to the Borg and Gall model, with a combination of qualitative and quantitative research. The method used is descriptive-exhortative method to identify various symptoms and root problems that occur in Electronic Archive learning and the design of Electronic Archive Book development. In the early stage of this research is to collect data, this step includes conducting a literature study, and research on a small scale to identify problem involving Electronic Archive lecturers, Office Administration Vocational School teachers and Practitioners from the Office Administration Professional Certification Institute (LSP-AP) North Sumatra.

The method used is descriptive-exhortative method to identify various symptoms and root problems that occur in Electronic Archive Management learning and the design of developing Electronic Archive Management Book. The subjects of this research are: students of the Office Administration Education Study Program, Lecturers of Electronic Archives Management, Archives and Archive Managers at UNIMED.

This research was conducted at the Office Administration Education Study Program, Economics Department, Faculty of Economics, UNIMED and UPT Archives UNIMED, Street of Willem Iskandar V Medan Estate. The population in this study were all students of Office Administration Education, archivist and archive manager at UNIMED. The sample in this research were students of the third semester of Office Administration Education Study Program class A and B who took courses in Electronic Archive Management and archivists and archive managers at UNIMED. The variable in this research is the Electronic Archives Management book as independent, while the dependent variable is the learning outcomes of students, archivists and archive managers at UNIMED.

The information analysis technique (data) in this research is to use a qualitative descriptive analysis technique that describes the results of product development in the form of an Electronic Archive Management book, namely the operational steps in developing an Electronic Archives Management book and testing the feasibility level of the product to be implemented in the Electronic Archive Management course and Implementation of electronic archive management for archivists and archive managers at UNIMED. The data obtained through the assessment instrument at the time of the trial were analyzed using qualitative descriptive statistics. The results of data analysis are used as the basis for revising the developed Electronic Archive Management book product. Data regarding the opinions or responses of students and archivists and archive managers collected through questionnaires were analyzed with descriptive statistics. The results of the questionnaire were analyzed and measured using a Likert scale with five categories: very feasible, feasible, fairly feasible, less feasible, and not feasible.

The data relates to the effectiveness of the Electronic Archive Management book developed in improving student learning outcomes, archivists and archive managers in analysts using **The Paired Sample T-Test with SPSS 20.**

#### 4 Results and Discussion

The result of the Need Analysis, and instructional analysis as well as the identification of the characteristics of students are then design an electronic archive management book with the discussion materials: 1) the basic concept of Electronic Archive; 2) Creation and receipt of electronic archive; 3) transfer of archive media, archive authentication; 4) registration of incoming manuscript; 5) registration of outgoing manuscript; 6) registration of manuscript without follow-up; 7) archive preservation; 8) access to electronic archive; 9) shrinkage of electronic archive.

The draft book was carried out formative evaluation with 3 stages, namely: one-to-one trying, small group tryout, field tryout.

**Table 1.** Test results of the Electronic Archive Management book

Trial stage	Number of Respondents	Response to the draft book	Category
<i>preliminary field testing</i>	10 people	3,2	good
<i>main field testing</i>	20 people	3,5	good
<i>operational field testing</i>	30 people	4,1	good

The results of the preliminary field testing with 10 samples are known. The sample response in the draft book is 3.2 in the good category. The results of the main field testing with 20 samples showed the sample response to the acceptance of the developed book was 3.5 in the good category. The results of operational field testing with 30 samples showed a response to the developed book of 4.1 in the good category. To determine the effectiveness of the use of the Electronic Archives Management book, pre-test and post-test were carried out during field trials.

**Table 2.** Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre Test	7.5450	30	1.45284	.26525
	Post Test	8.3667	30	.92786	.16940

Based on the results of Paired Samples Statistics, it can be seen that the average pretest score is 7.54 while the post-test average is 8.37 with a total of 30 archivists and archive managers. With a pre-test standard deviation of 1.45 and a post-test standard deviation of 0.93. Standard Error Mean pretest is 0.27 and posttest is 2.975. Because the average value of learning outcomes for archivists and archive managers in the pre-test is  $7.55 < \text{post-test } 8.37$ , it means that descriptively there is a difference in the average learning outcomes between the pre-test and post-test results.

**Table 3.** Paired Samples Correlations

Pair 1	Pre Test & Post Test	N	Correlation	Sig.
		30	-.221	.240

Based on the output above, it is known that the correlation coefficient (correlation) is 0.221 with a significance value (Sig.) of 0.242. Because the value of Sig.  $0.242 > 0.05$  probability, it can be said that there is no relationship between the pre-test variable and the post-test variable.

Based on the "Paired Samples Test" output table above, the Sig. value is known. (2-tailed) is  $0.024 < 0.05$ , then  $H_0$  is rejected and  $H_a$  is accepted. Furthermore, it is also known that the t arithmetic value is  $2,383 > t \text{ table } 2,045$ , so it can be concluded that there is an average difference between the learning outcomes of the Pre Test and Post Test, which means that there is an influence on the use of Electronic Archive Management books in increasing the knowledge of archivists and archive managers. From the output table "Paired Samples Test" above also contains information about the value of "Main Paired Differences" is 0.82. This value shows the difference between the average Pre Test learning outcomes and the Post Test learning outcomes average or  $7.55 - 8.37 = 0.82$  and the difference between 1.257 and 0.116 (95% Confidence Interval of the Difference Lower and Uppers).

Unlike the electronic Archive Management books that have existed so far. This Draft Electronic Archive Management Book presents procedures for handling archives that are clear from the manufacture of outgoing letter manuscripts in accordance with the official document administration, management of incoming mail, conducting archive media for print out archives, authenticating archives for archives that have been transferred to media, registering letters entry, registration of outgoing mail and registration of letters that have entered the inactive period using the application of SIKD.

## 5 Conclusion

Based on Needs Analysis, instructional analysis and identification of student characteristics, electronic archive management books have been compiled that present the following materials: (1) the basic concepts of Electronic Archives; (2) Creation and receipt of electronic archives; (3) transfer of archive media, archive authentication; (4) registration of incoming manuscripts; (5) registration of outgoing manuscripts; (6) manuscript registration without follow-up; (7) archive preservation; (8) access to electronic archives; (9) shrinkage of electronic archives.

The response of archivists and archive managers on the draft book is in the good category. The results of the preliminary field testing of 10 samples responded well to the draft book, namely 3.2. The results of the main field testing for 20 samples showed the acceptance of the sample in the draft book was 3.5 in the good category. Likewise, the results of operational field testing with 30 samples showed a response to the developed book of 4.1 in the good category.

The output of "Paired Samples Test", it is known that the value is  $2,383 > t$  table of 2,045, so as the basis for the decision above, it can be concluded that  $H_0$  is rejected and  $H_a$  is accepted. So it can be concluded that there is an average difference between the Pre Test and Post Test learning outcomes, which means that there is an influence on the use of Electronic Archive Management books in increasing the knowledge and competence of archivists and archive managers at UNIMED.

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