

DEVELOPING A RECORD ARCHIVING SYSTEM IN EASTERN VISAYAS STATE UNIVERSITY – BURAUEN CAMPUS

Elpidio C. Villarosa

Eastern Visayas State University- Burauen Campus
PHILIPPINES

ABSTRACT

Records archiving, and storage pose a strategic role in managing the university system efficiently and effectively. It also documents the planning and implementation of certain services, allowing proper tracking of work. In this study, the researcher developed a record archiving system for Eastern Visayas State University Burauen Campus. The system is able to provide a paperless records management system, deliver an easier pace for retrieving and recording data, and secure a reliable database backup. The researcher utilized a system developmental research approach that consists of two phases, the analysis phase where the needs are being assessed and the design and development phase of the record archiving system.

Keywords: Record Archiving System, Database Backup, Records Management.

INTRODUCTION

Carrying out its mission, vision, and mandate, different universities create various records to manage data. It is noted that universities' core business is centered on learning, teaching, research, and community development (Chinyemba and Ngulube, 2005). Even before, government agencies and institutions conduct official transactions through paper documents written or typed. These documents still fill up the largest repository of record materials in archives (Rhoads, 1983). With the advent of modern technology, a lot has evolved in different aspects, including how these institutions conduct such transactions and thus, altering the nature of the archives in the future. Modern technology and its application in the records archiving system are deemed fast and ensure feasible transactions, especially in government institutions such as universities that heavily rely on documentation.

As a government institution, the Eastern Visayas State University – Burauen Campus (EVSU-BC) also depends notably on its documents in keeping records. The existing records system in EVSU-BC heavily relies on documents in hard copies stored in steel cabinets. The University's Records Team is responsible for managing and safekeeping its records, identifying which records should be retained in the archives. The current records archiving system has more than one rack filled with various files and is deemed space-consuming. As the campus is heavily flooded with a large number of records, all in different formats such as paper and electronic documents, from its official transactions, the current records archiving system is deemed primitive. It is time-consuming in terms of retrieving these documents.

Addressing this gap requires using automated technology to further enhance and upgrade the records archiving system in EVSU-BC. This system is deemed to be more efficient and less time consuming in retrieving these documents. This automated system also promises reliability in providing backups in the event of disasters, as the Eastern Visayas region is greatly prone to calamities such as typhoons and earthquakes. Moreover, the said system will provide the University with a streamlined operation to reduce paper-based transactions to the bare minimum. Specifically, this record archiving system shall exhibit long-term benefits such as easy access to information by any authorized user, providing more timely and better

management decisions upon obtaining complete information, reducing the requirement for equipment and space for records, and improving accountability to the public by preserving integrity. Even though record-keeping problems are ubiquitous to the different levels of the education sector, it is found that it is more evident in the university system. It is because accurate, reliable, and trustworthy records that need to fulfil evidential requirements are being made but are mismanaged (Akor and Udensi, 2013). With this, it becomes a great concern to the government, the parents, students, individuals, and organizations. As efforts to address the issue in many universities are underway, such as the introduction of modern technology in developing a database management system, it still did not address the issue as it still utilizes the conventionally paper-based format in transactions such as these, resulting in different complaints from the staff and opening more problems such as in the gross inadequacy of qualified personnel and facilities. Thus, the study aimed to develop a Record Archiving System for Eastern Visayas State University Burauen Campus. The said records archiving system should be able to provide a paperless records management system, deliver an easier pace for retrieving and recording data, and secure a reliable database backup.

LITERATURE REVIEW

On Records Archiving and Records Management

The University of Melbourne in 2001 defines records management as *“the capturing and maintaining of accurate, complete, reliable, and useable documentation of activities of an organization to meet legal, evidential, accountability and social/cultural requirements”* (Chinyemba and Ngulumbe, 2005). This system is primarily aimed to monitor records of various types and formats, securing its efficient passage through the creation, use, storage, and disposal of these materials. Institutions and organizations utilize records in the expansion and maintenance of competitive advantage. These records are essential resources for decision-making, good governance, and research as they serve as proofs of the organization’s internal and external activities; thus, proper management of these records is vital (Momoti and King, 2019).

As mentioned, records archiving, and storage pose a strategic role in managing the university system efficiently and effectively (Akor and Udensi, 2013). It documents the planning and implementation of certain services, allowing proper tracking of work. Thus, records keeping, and record management need to be implemented with some level of confidentiality, appropriate maintenance, security, preservation of the content and context (Iwhiwhu, 2007, as cited in Akor and Udensi, 2013). Implementation of the aforementioned measures to the University’s records and information is vital. It is also needed by most students, faculty, and staff, especially when it comes to claiming credentials and previous records in the University. However, it was found that there has been damage in the field of records management due to many years of neglect (Ibiam, 2004, as cited in Akor and Udensi, 2013). Moreover, it has been noted that some personnel maintaining registry systems with filing cabinets containing university transactions in hard copies are *“inadequate and ignorant of their responsibilities”* (Iguodala, 1998, as cited in Akor and Udensi, 2013).

The same findings have also been found in the study of Bayram and Ozdemirci (2011), where it was elucidated that universities among the public institutions have not stepped up to shift their records management system from the paper-based, cabinet-based system to an electronic system of archiving and securing these records. It might be due to the universities’ inability to restructure their record management plan systematically and shifting its mode to electronic media. Moreover, Chinyemba and Ngulumbe (2005) study revealed that records management

practices did not meet the prescribed legislation and international standards. Similar findings were also revealed in the study of Coetzer (2012, as cited in Momoti and King, 2019) wherein at the University of Zululand in South Africa, no practice of proper records management was observed. Finally, the study of Adomi (2002, as cited in Momoti and King, 2019) gave similar results – no formal records management system, which resulted in storing these records in cabinets in their offices with no security. It posed difficulty to access these records by decision makers in the universities. With the problems imposed concerning the maintenance of these records in universities, studies aim to develop records archiving systems in electronic format. However, it must be noted that as technology also evolves, both the media and technical format of old digital materials become unusable in a short period of time (Mutale and Phiri, 2016). It is because digital materials are fragile, and they become affected as technologies rapidly and continuously change. At the same time, institutions need to store these data or documents for over 100 years while keeping their accessibility easy (Schilke and Rauber, as cited in Mutale and Phiri, 2016). The study of Chen et al. (Chen, K., Chen, Y., & Ting, P. (2020) found that the average lifetime of a website is only 44 days in a survey. Thus, the need to secure a system to maintain these electronic documents while keeping their easy access and transparency to people is a must.

To address this problem, there has been an increase in barcodes' use in encoding more information per area unit (Mutale and Phiri, 2016). A barcode is defined as “a series of bars and spaces arranged according to a set of rules that determines how data is to be represented” (Bhargava et al., 2014). These barcodes, usually in two-dimensional format (e.g., QR Codes), contain finder patterns, alignment patterns, timing patterns, and a quiet zone, making reading easy and easy access to the data area data is stored. With an application such as a QR Code Scanner, which can be easily installed on the phone, the code can be easily converted into text and then lets you proceed to the desired document. Another technology that might be applied is the use of internet archiving. This system is tasked to collect all types of websites, data, and information to maintain the powerful mirrors of the internet worldwide (Chen, Chen & Ting 2020). The Internet Archive has kept information about specific events such as the 9/11 attacks via websites. It has also organized a forum and built an FAQ to ensure interaction with the users. Finally, a system needs to be achieved while developing this new technology to develop an electronic document archiving system. The Electronic Document Archiving System involves noting every action or use made with a document made within an organization, to its creation, distribution, and deletion (Mutale and Phiri, 2016). It is because a document can either be “represented in electronic form or as a traditional hardcopy consisting of one to thousands of pages.” With this, it must be noted that institutions must be wary of maintaining records while improving their efficiency and accessibility to the desired users.

Records Management in Universities

Different ways of storing documents have already been implemented in different universities worldwide. In the University of Manitoba, one of Canada's significant teaching and research institutions, a formal archival program was established in 1978, and a University Archivist was appointed (Vacjner, 1998). Most of the records and information which are in their University Archives come from the Office of the President, Senate, Board of Governors, General Faculty Council, the University Council, and other administrative and support services with those from other faculties and schools. With the evolution of technology, the University of Manitoba began to generate and opted to maintain their vital documents and records in electronic form. With the help of their Archives and Archival Studies program within the Department of History and their Information Services and Technology Unit (IST) of the said University, along with

interviewing and surveying people from their University Library administrative office, they were able to formulate a long-term management plan of two electronic records which are neither custodial in traditional format nor entirely decentralized (Vacjner, 1998). With this strategy, it is implied that a key to maintain and construct an effective records management system requires partnership and collaboration among its stakeholders and the administrators around the University. Meanwhile, a devised record archiving and management system, entitled “Records Management and Archiving System in Universities,” also known as the BEYAS Project, was implemented in the University of Ankara in Turkey (Bayram and Ozdemirci, 2011). The said project has been implemented to create a substructure that can provide a systematic way of managing records produced in work, as the University transitioned into an E-records management. The BEYAS model was formulated by making an institutional structure and determining a process subject to the ISO 15489 Records Management Standard to execute records and its archiving procedure. A structure of records management and archiving system for Ankara University was based on the obtained data and records management, and archiving systems were determined. Application guides were made and put into practice. Upon the institutionalization of this project, the BEYAS Model was made containing five components: the formation of policy and strategy, development of correspondence and records production, filing procedures, designing an application process of retention plan, and developing the assessment-selection-destruction procedures.

In the University of Western Cape, a national university in South Africa, they have established a Central Records Office within Documents, Records, and Archives Management Services, known as the DRAMS (Momoti and King, 2019). Established in 2008, the DRAMS comprises the University Archives and the Central Records Office (CRO). The CRO is then tasked to manage documents, current and semicurrent records, train university staff on records management practices, and provide internal and external users access to university information. There is also an Archives and Records Management Committee (ARMC), which is chaired by the Registrar, which oversees the DRAMS implementation. With this, Momoti and King (2019) study elucidated that there is indeed a systematic way of managing and archiving records in the said University in South Africa. Overall, these conditions and practices brought by the universities in implementing their records management program, along with its archiving system, is a clear manifestation of implementing a need for efficient and accessible records and archives, especially in a university like the Eastern Visayas State University – Burauen Campus, where its students, faculty, and staff rely heavily on records and materials to ensure smooth flow of their daily tasks as employees and stakeholders of the said institution. Moreover, as stated earlier, implementing an automated and systematic records archiving system in universities was made successful because of partnerships and consultation with its stakeholders. Therefore, it is deemed essential and necessary to be able to develop a record archiving system.

METHODOLOGY

The study used system developmental research approach. The researcher’s aim is to design and create a record archiving system for Eastern Visayas State University- Burauen Campus that seeks to create a paperless data recording, easier pace for transactions which includes retrieving and recording confidential information of the students and provide a reliable database that could backup the files that are deemed confidential and should be treated with data security.

Phases of System Development

Research Locale, Participants and Sampling

There are two phases of the study, the first phase was a survey that was participated by the faculty and staff of Eastern Visayas State University- Burauen Campus. The participants of the study was selected through purposive sampling, the basis of the selection is that the participants should be a faculty or a staff of EVSU-BC. For the second phase of the study, it is the part were the system was designed and developed. All the features of the system only answer the needs of the said school when it comes to record management.

Potential Ethical Issues

The study focuses on developing a record archiving system for Eastern Visayas State University Burauen Campus. The product of the study was only to provide a solution to the problems of EVSU- BC with regards to their record archiving. Since the researcher deals with valuable information that should be treated well in accordance to data privacy, the researcher assures to treat all possible input to the system with utmost confidentiality.

RESULTS AND DISCUSSION

Phase 1 Analysis Phase

At this part of the study, the researcher conducted a survey participated by employees of Eastern Visayas State University- Burauen Campus. The survey aimed to identify the deficiencies with the data management practices including how to record and retrieve data. The graphs below show the results of the conducted survey.

Figure 1. The management practices of EVSU-BC with regards to recording and retrieving data is time-efficient

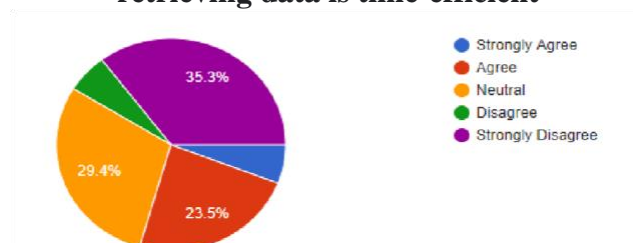


Figure 1 shows the responses of the employees with regards to the time efficiency of recording and retrieving data as part of the management practices of EVSU-BC. From the result portrayed above, 35.3 % of the participants strongly disagreed that the recording and retrieving of data was time-efficient.

Figure 2. The recording of students' academic information like grades and pertinent documents is done at a faster pace

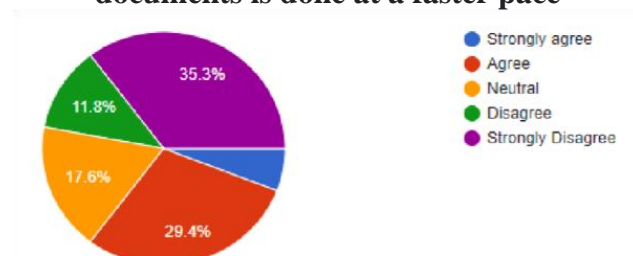


Figure 2 shows that the recording of students’ academic information like grades and pertinent documents is not done at a faster pace. And this is supported by the 35.3% of the participant who strongly disagreed and 11.8% who disagreed.

Figure 3. There is a secured database if in any case hard copies of the documents are damaged because of natural disasters like typhoons

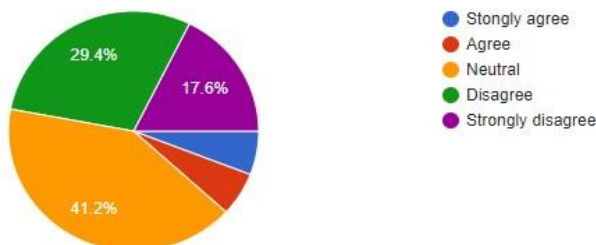


Figure 3 shows that the respondents are not sure if there is a secure backup the database if in any case that the hard copies of these documents are damaged because of natural disasters, this is supported by the 41.2 % of the participants who answered neutral. But there was a total of 47 % of the participants who says that there is no secure database back up for the documents, it is shown by the 29.4 % of the participants who disagreed and 17.6 % who strongly disagreed.

Figure 4. It takes time to retrieve students’ information causing a delay in document processing

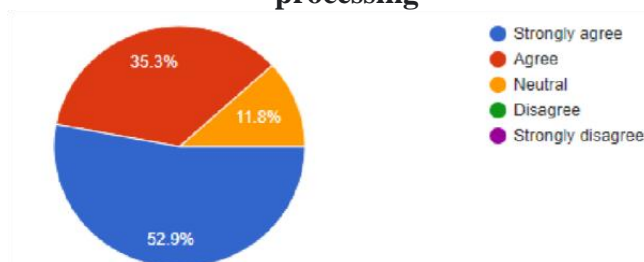


Figure 4 shows that 52.9 % of the participants strongly agreed and 35.3 % agreed that it takes time to retrieve students' information causing a delay in document processing.

Figure 5. The employees take much time to retrieve the academic documents of the students.

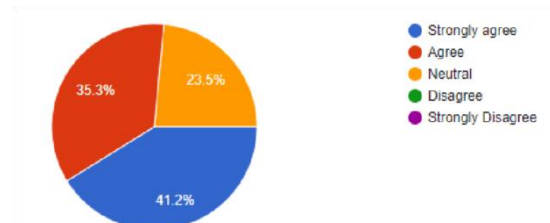


Figure 5 shows that 41.2 % of the participants strongly agreed and 35.3% agreed that the employees take much time to retrieve the academic documents of the students. The results showed by the figures presented above reflect the deficiencies in the existing management system of EVSU- BC. There were also suggestions to improve the record management of the said school. These include the implementation of a record archiving system, upgrading to a well-maintained record system that is accessible and secured, filling documents in an organized manner, and conducting a seminar to further improve the registrar’s record management

practices. The results were carried out to the second phase of the system developmental research which is the Design and Development Phase. Here the researcher designed and developed a record archiving system that supports the deficiencies of the current data management practices of EVSU-BC.

Phase 2 Design and Development

In this phase of the study, the researcher carried out the data collected from phase 1 to phase 2. The result of the survey has been the basis of creating the record archiving system. These include recording data in an easier manner and faster pace as well as the retrieval of the documents needed by the clients in every transaction. The diagram below showcase the data flow of the system that was created.

Figure 6. Data Flow Diagram on Recording and Retrieving Data in the Record Archiving System

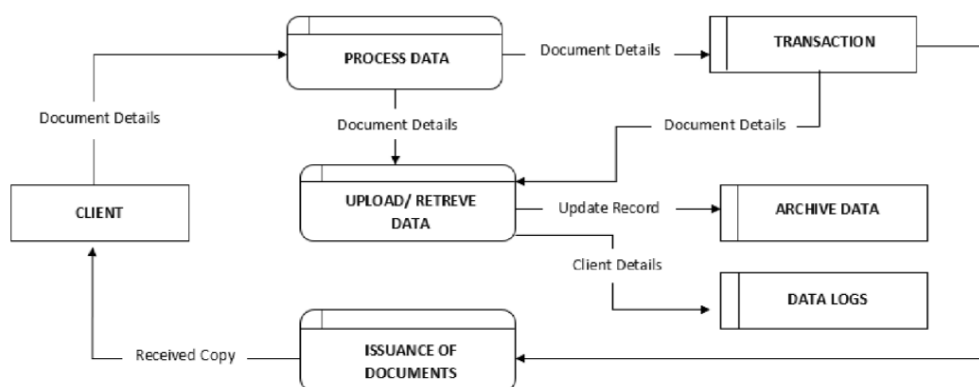


Figure 6 showcase the flow of how to record and retrieve data in the Record Archiving System. For recording data, the client will be providing the details to be processed for the transaction. These details will be uploaded to the Record Archiving System. The data uploaded will be added to the archived data and details of the transaction will be recorded as well in the data logs. After which, the issuance of the received copy to the client will be the endpoint of the transaction. On the other hand, for retrieving data, details will be provided as well by the client. The details will be carried out for processing and goes to the part where the system will retrieve the archived data. Afterward, the details of the transaction will be recorded to the data logs and the issuance of the document to the client will follow and this marks the end of the transaction.

Record Archiving System

The Record Archiving System seemed to fulfil the objectives of the study which focuses on creating a paperless data recording, easier pace for transactions which includes retrieving and recording confidential information of the students, and provide a reliable database that could back up the files that are deemed confidential. The following figures below showcase how the system works.

Figure 7. Log-in credentials needed for the Record Archiving System

The screenshot shows a 'Login Form' with two input fields: 'Username' and 'Password'. Below these fields is a green button labeled 'LOGIN'.

The log-in credentials are needed in securing that the accessibility of the system is restricted. Only the authorized person can access the system to uphold the security and privacy of the data since it involves recording documents that are deemed confidential.

Figure 8. Recording Documents in the Record Archiving System

The screenshot shows the 'Add Record' form. It includes the following fields: 'Record No.', 'Name', 'Type', 'Date of Data' (with a date picker icon), 'Validity', and 'File' (with a 'Click add to add file to upload' link). There are 'Add', 'Add File', and 'Clear' buttons at the bottom.

In recording documents, the system asked the operator to generate a record number. The record number will serve as a reference for the easier retrieval of documents. The name of the client who submitted the documents for recording is one of the needed inputs of the system also the type of document, as to whether it is a communication letter, pertinent documents and grades. These details are needed because this will be the needed input for document retrieval. After which, the uploading of documents to the Record Archiving System will follow.

Figure 9. Retrieving Documents in the Record Archiving System

The screenshot shows the 'Search Records' interface. It features a search bar and a table of results data.

Record No.	Name	Type	Date of Data	Validity
Example-01	Elpidio C. Villarosa	Communication letter	2021-05-03	N/A
Example-02	Juan Dela Cruz	Grade Sheet	2021-05-26	N/A
Example-03	Maria Pedrosa	Pertinent Documents	2021-05-17	N/A
Example-04	Edgar Avelino	Application letter	2021-05-26	N/A
Example-05	Mae Anne Migue	PDS	2021-05-24	N/A
Example-06	Ryan Rarugal	Memorandum	2021-05-25	N/A

As for retrieving documents, there is a search tab that would direct you to the document that the client is needing. The search tab allows you to search for the document by just inputting the record number, the type of the document, the author or the one that recorded the document, and the date it was saved in the record archiving system.

CONCLUSION

The researcher aimed to develop a record archiving for EVSU-BC based on the deficiencies of the current data management of the said University. The proposed record archiving system aimed to provide a paperless data management system, deliver an easier pace for retrieving and recording data and secure a reliable database backup. The study was conducted through system developmental research which consists of three phases. With the two phases of the study, the researcher was able to identify the needs of EVSU-BC in terms of record management. This allows the researcher to develop a Record Archiving System that is deemed to answer the needs and problems encountered by the stakeholders of the said University. The developed Record Archiving System could help the stakeholders of EVSU-BC to improve their record management practices in terms of recording and retrieving documents.

RECOMMENDATION

The researcher recommends that the system should undergo a validation process wherein it will be implemented for 1 year. Afterward, the evaluation through survey and expert's evaluation will follow to secure the reliability and usability of the developed system.

BIBLIOGRAPHY

- Akor, P. U., & Udensi, J. (2013). An assessment of record management system in establishment division of two universities in Nigeria. *Mediterranean Journal of Social Sciences*.
<https://doi.org/10.5901/mjss.2013.v4n12p87>.
- Bayram, S. O., & Ozdemirci, F. (2011). Transition process of e-records management and archiving system in universities: Ankara University. *Advances on Information Processing and Management*, 147149.
http://beyas.ankara.edu.tr/wpcontent/uploads/beyas/dosyalar/Yararli_dokumanlar/GreecePaper_son_27_05_2005.pdf.
- Bhargava, N., Kumawat, A., & Bhargava, R. (2014). Demonstration of barcodes to QR codes through text using document software. *International Journal of Innovative Research in Science, Engineering and Technology*, 03(09), 16243-16249.
<https://doi.org/10.15680/ijirset.2014.0309062>.
- Chen, K., Chen, Y., & Ting, P. (2020). Developing National Taiwan University web archiving system. *8th International Web Proceedings*.
- Chinyemba, A., & Ngulube, P. (2005). Managing records at higher education institutions: A case study of the University of KwaZulu-Natal, pietermaritzburg campus. *SA Journal of Information Management*, 7(1). <https://doi.org/10.4102/sajim.v7i1.250>.
- Momoti, N., & King, L. (2019). A records management model for an intelligent university. *Journal of the South African Society of Archivists*, 52,79-94.
https://www.researchgate.net/publication/342348417_A_records_management_model_for_an_intelligent_university.

- Mutale, B. M., & Phiri, J. (2016). Web based document archiving using time stamp and barcode technologies - a case of the University of Zambia. *International Journal of Innovative Research in Science, Engineering and Technology*, 5(4), 4625-4634. <https://doi.org/10.15680/IJRSET.2016.0504004>.
- Rhoads, J. B. (1983). *The role of archives and records management in national information systems: a RAMP study*. United Nations Educational, Scientific and Cultural Organization. <https://unesdoc.unesco.org/ark:/48223/pf0000056689>.
- Vajcner, M. (1998). *The Possibility of Partnerships in Archiving Electronic Records: A Proposal for the University of Manitoba* [Doctoral dissertation]. <https://ourspace.uregina.ca/handle/10294/811>.