

## Competencies Required by Administrative Office Managers in the Utilization of Electronic Records in Tertiary Institutions in Taraba State, Nigeria.

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**ABSTRACT:** *The study examined competencies required by administrative office managers in the utilization of electronic records in tertiary institutions in Taraba State, Nigeria. The study adopted survey research design. The population for the study comprised 901 (males 659 and females 242) administrative office managers in nine (9) tertiary institutions located in Taraba State. The sample size of the study was 277, determined using Yaro Yamane's formula. The instrument for data collection was a 4-point rating scale structured questionnaire titled "Questionnaire on Competencies Required by Administrative Office Managers in the Utilization of Electronic Records (QOMCUER). The instrument was validated by three experts and was subjected to internal reliability testing using Cronbach Alpha reliability coefficient and it produced an overall reliability index obtained of 0.85. Findings indicated that word-processing and cloud storage competencies are required by administrative managers in the utilization of electronic records. Results of the hypotheses testing revealed that there is no significant difference in the mean ratings of male and female administrative office managers in tertiary institutions on word-processing competencies required in the utilization of electronic records. Furthermore, there is no significant difference in the mean ratings of administrative office managers in urban and rural areas in tertiary institutions on cloud storage competencies required in the utilization of electronic records. The implication of the findings will be useful to office managers in times of creation and storage of records in tertiary institution. It was recommended that tertiary institutions that employ administrative office managers should organize seminars and workshops to provide competency training in word-processing and cloud storage to enable them handle electronic records in any office they find themselves.*

**KEYWORDS:** administrative office managers, records, electronic records, word-processing and cloud storage competencies.

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## INTRODUCTION

Administrative Office Managers are trained individuals working in the office to ensure clerical and administrative activities move efficiently in the office. In the assertion of Glassdoor (2020), an administrative officer coordinates and oversees administrative duties in an office, and ensures that the office operates efficiently and smoothly. Administrative office managers amidst other responsibilities help to create, keep and make all forms of records available on demand.

Records refer to useful materials, documents, data or information created and maintained for immediate and future use. In the opinion of Tyrocity (2021), records are the collective form of written data that are made for future use. Any information or document that serves as reference to the work at hand or for the future is regarded as record. Records are not only created within an organization, they could as well be received from outside the organization to show evidence of a transaction and provide accountability. Every good record must be authentic, complete, reliable and fixity. Records form an essential part of an organizational memory and it is used to support organizational management (Oko, Egba, Egba, Achimugu & Achimugu, 2016; Öberg and Borglund, 2006). In the opinion of Anderson (2007), they are assets, important to the organizational or personal lives that create or receive them; and some of these records prove identity or ownership of property and other assets. This means a business may run into problem if it loses the legal documents essential to proving its existence and continuing to function, because its corporate memory has been lost. Records could be physical (paper) or electronic (digital). The focus of this article is on electronic records.

Electronic records are any combination of text, graphics, data, audio, pictorial, or other information representation in digital form that is created, modified, maintained, archived, retrieved, or distributed by a computer system (Michael, 2019). They come in the form of emails, websites, Word and Excel documents, spreadsheets, digital images, digital purchase receipts, databases, text messages, social media postings, and information stored on SharePoint sites and content management systems. Many organizations are moving from physical records system to electronic records because of utilization ease, management and location of particular records or file within a short time.

In today's technological driven society, where most business organizations and institutions of learning are shifting to electronic approach to work, administrative office managers especially those in tertiary institutions require certain competencies to enable them perform effectively in modern offices. In this article, electronic records utilization competencies are based on the use of the computer technology in records creation, classification, storage, retrieval, maintenance and protection. However, particular attention is given to word-processing and cloud storage

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Publication of the European Centre for Research Training and Development-UK competencies. These competencies will at least enable the administrative office managers to produce quality records, store and make them available on demand.

Record begins with creation, and word processing is an aspect of records creation. More so, records can be created using various means. Electronic records for instance are created using a word processor, a software application such as Microsoft Word, Google Documents or Open Office Writer (Hope, 2018). In the view of Young (2020), Word processing refers generally to the creation, editing, formatting, storage, and output of both printed and online or electronic documents. In the assertion of Bujdosó (2011), word processing is one of the most often used activities by computer users. It involves the entering, editing and formatting of text and images. Word-processing competency on the other hand refers to what is required to use word processing application to create professional documents. Competencies are necessary to create letters, electronic mails (emails), reports and other documents and can help an individual to create and organize attractive and readable documents (Ogbonna, Ibezim and Obi, 2019). Competencies in word-processing are categorized into five: input, manipulation, formatting, saving and output. Competency in these categories is essential to the administrative office managers for efficient use of the computer for word processing.

There is a debate on word processing competencies based on gender the administrative office managers. Some have seen competencies in word processing as important for job performance, irrespective of the users' gender (Ogbonna, Ibezim and Obi, 2019). Contrarily, Bujdosó (2011) study suggested that women better appreciate word processing than men. Ezenwafor and Gude (2020) found that gender and institution ownership significantly influenced the mean ratings of respondents in North-West Nigeria on word processing competencies possessed by their OTM graduate workers. Similarly, Azih, Ogala and Okoronkwo (2019) found a significant difference in the mean responses of male and female administrative office managers on word processing skills needed for effective secretarial performance. These different views of gender on competencies in word processing has spurred the study to determine significant difference in the mean ratings of male and female administrative managers in tertiary institutions in Taraba State, Nigeria on word-processing competencies required in the utilization of electronic records management.

Cloud Storage is another competency an administrative office manager should possess. According to Bigelow and Rosencrance (2020), the name cloud computing was inspired by the cloud symbol that is often used to represent the Internet in flowcharts and diagrams. Cloud storage can simply be understood using the mechanism of how emails work. When a person wants to access the email he or she clicks on a web browser and logs into the email client which is hosted completely different by a service provider. As an organization continues to grow in size and in the volume of activities, the volume of its records also increases. The regular storage devices like floppy diskette, CD, DVD, flash drive or hard drive may not be able to contain all the records of the organization. Saving in the cloud becomes the alternative for organizations. The administrative office managers

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in those organizations particularly tertiary institutions need to have the competencies to utilize cloud storage.

Cloud storage competencies are those competencies that enable saving information in the cloud enabling environment and downloading the information when it is needed. These competencies are not limited but include the ability to use the Internet, secure data, understand the security measures that cloud providers have in place, download data on any chosen device, place a hold on an object to prevent its deletion, encrypt object data with encryption keys stored by the Cloud Key Management Service, uniformly control access to your cloud storage resources by disabling object Access Control Lists (ACLs), and define minimum retention periods that objects must be stored before they are delectable.

Competencies in cloud storage makes it possible to access information from anywhere at any time. Based on the idea that cloud removes physical storage location, Simelane, Kogeda and Lall (2016) are of the view that cloud computing can be used both in urban and rural areas; and it can particularly be used in augmenting agricultural activities in the rural areas. On the contrary, Dyubele, Cele and Mbangata (2020) believed cloud computing competencies are more needed in urban areas since many businesses have interest in migrating to the cloud to expand their businesses. The contrary notions about cloud utilization based on location inspired necessities an investigation into the difference in the mean ratings of administrative office managers in urban and rural areas in tertiary institutions on cloud storage competencies required in the utilization of electronic records.

### **Statement of the Problem**

The performance of every organization is dependent on the information available for use in to make informed decisions. That is to say there is no organization that can function effectively without the use of records. In tertiary institutions for example, there is great need to maintain administrative, staff and students' records to provide information to aid decision making. As far as records are concerned, administrative office managers have a role to play in the creation and keeping records safe and making them available on demand to support administrative functions.

However, with the paradigm shift from manual to electronic records management system, organizations are compiled to promptly respond to the new trends by retooling their workforce digitally. The challenge therefore, remains that office employees such as administrative office managers now require new office skills and competencies in order to cope with the challenges of employee retooling digital agenda for their organizations. Thus, the need for administrative office managers to embrace new competencies particularly in records creation and storage which is the gap of the study in order to enable them function effectively. It is in line with the gap, that this

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study focused to sought the competencies required by administrative office managers in the utilization of electronic records in tertiary institutions in Taraba State, Nigeria.

### **Objectives of the Study**

The main objective of the study was to determine the competencies required by administrative office managers in the utilization of electronic records in tertiary institutions in Taraba State, Nigeria. Specifically, the study ascertained the:

1. Word-processing competencies required by administrative office managers in the utilization of electronic records in tertiary institutions.
2. Cloud storage competencies required by administrative office managers in the utilization of electronic records in tertiary institutions.

### **Research Questions**

The following research questions are formulated to guide the study:

1. What are the word-processing competencies required by administrative office managers in the utilization of electronic records in tertiary institutions?
2. What are the cloud storage competencies required by administrative office managers in the utilization of electronic records in tertiary institutions?

### **Hypotheses**

The following null hypotheses guided the study and were tested at 0.05 level of significance:

- H0<sub>1</sub>:** There is no significant difference in the mean ratings of male and female administrative office managers in tertiary institutions on word-processing competencies required in the utilization of electronic records.
- H0<sub>2</sub>:** There is no significant difference in the mean ratings of administrative office managers in urban and rural areas in tertiary institutions on cloud storage competencies required in the utilization of electronic records.

### **METHODOLOGY**

The design adopted for study was the survey research design. The population for the study comprised 901 (males 659 and females 242) administrative office managers in nine (9) tertiary institutions located in Taraba State. The sample size of the study was 277, determined using Yaro Yamane's formula. Proportionate sampling technique was then used to apportion the sample size according to the institutions. The instrument for data collection was a 4-point rating scale structured questionnaire titled "Questionnaire on Competencies Required by Administrative Office Managers in the Utilization of Electronic Records in Tertiary Institutions in Taraba State (QOMCUERTITS). The instrument was validated by three experts and was subjected to internal reliability testing using Cronbach Alpha reliability coefficient. The overall reliability index obtained was 0.85. Two hundred and seventy-seven (277) copies of the questionnaire were

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## RESULTS

### Research Questions

#### Research Question One

What are the word-processing competencies required by administrative office managers in the utilization of electronic records in tertiary institutions?

The data analysis for Research Question one is presented in Table 1

**Table 1: Word-processing competencies required by administrative managers in the utilization of electronic records in tertiary institutions in Taraba State, Nigeria**

| S/N               | Word processing Competencies include the Ability to: | X           | SD   | Decision        |
|-------------------|------------------------------------------------------|-------------|------|-----------------|
| 1                 | Enter text                                           | 3.60        | 0.48 | Required        |
| 2                 | Edit text                                            | 3.60        | 0.49 | Required        |
| 3                 | Save text document                                   | 3.58        | 0.49 | Required        |
| 4                 | Open text document                                   | 3.53        | 0.54 | Required        |
| 5                 | Add graphics                                         | 3.62        | 0.48 | Required        |
| 6                 | Format text document                                 | 3.62        | 0.48 | Required        |
| 7                 | Create tables                                        | 3.51        | 0.50 | Required        |
| 8                 | Validate text                                        | 3.68        | 0.46 | Required        |
| 9                 | Page numbering                                       | 3.52        | 0.50 | Required        |
| 10                | find-and-replace                                     | 3.63        | 0.50 | Required        |
| <b>Grand Mean</b> |                                                      | <b>3.58</b> |      | <b>Required</b> |

Table 1 revealed that all the items were required. The grand mean of 3.58 indicates that word-processing competency is required by administrative managers in the utilization of electronic records.

#### Research Question Two

What are the cloud storage competencies required by administrative office managers in the utilization of electronic records in tertiary institutions?

The data analysis for Research Question two is presented in Table 2

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**Table 2: Cloud storage competencies required by administrative managers in the utilization of electronic records in tertiary institutions in Taraba State, Nigeria**

| S/N               | Cloud Storage Competencies include the Ability to:             | $\bar{X}$   | SD   | Decision        |
|-------------------|----------------------------------------------------------------|-------------|------|-----------------|
| 11                | Use the internet                                               | 3.65        | 0.47 | Required        |
| 12                | Secure data                                                    | 3.54        | 0.49 | Required        |
| 13                | Identify the security measures put in place by cloud providers | 3.59        | 0.49 | Required        |
| 14                | Download data on any chosen devices                            | 3.62        | 0.48 | Required        |
| 15                | Place a hold on object to prevent its deletion                 | 3.62        | 0.48 | Required        |
| 16                | Encrypt object data with encryptions key store                 | 3.59        | 0.49 | Required        |
| 17                | Uniformly control access to cloud storage resources            | 3.68        | 0.46 | Required        |
| 18                | Store data on the internet                                     | 3.60        | 0.49 | Required        |
| <b>Grand Mean</b> |                                                                | <b>3.61</b> |      | <b>Required</b> |

Table 2 shows that all the items were required. Furthermore, the grand mean of 3.61 indicate that cloud storage competency is required by administrative managers in the utilization of electronic records.

## Research Hypotheses

### Research Hypothesis One

There is no significant difference in the mean ratings of male and female administrative office managers in tertiary institutions on word-processing competencies required in the utilization of electronic records.

The t-test analysis of data collected to test null hypothesis one is presented in Table 3

**Table 3: T-test analysis of male and female administrative office managers in tertiary institutions on word-processing competencies**

| S/N | Gender | N=277 | Mean | Std. | Df  | t-cal | t-crit | Decision        |
|-----|--------|-------|------|------|-----|-------|--------|-----------------|
| 1   | Male   | 203   | 3.59 | 0.49 | 275 | 0.58  | 1.96   | Not Significant |
|     | Female | 74    | 3.63 | 0.48 |     |       |        |                 |
| 2   | Male   | 203   | 3.60 | 0.49 | 275 | 0.10  | 1.96   | Not Significant |
|     | Female | 74    | 3.60 | 0.49 |     |       |        |                 |
| 3   | Male   | 203   | 3.56 | 0.49 | 275 | 0.82  | 1.96   | Not Significant |
|     | Female | 74    | 3.62 | 0.48 |     |       |        |                 |
| 4   | Male   | 203   | 3.51 | 0.54 | 275 | 0.92  | 1.96   | Not Significant |
|     | Female | 74    | 3.58 | 0.54 |     |       |        |                 |
| 5   | Male   | 203   | 3.62 | 0.48 | 275 | 0.21  | 1.96   | Not Significant |
|     | Female | 74    | 3.63 | 0.48 |     |       |        |                 |
| 6   | Male   | 203   | 3.61 | 0.48 | 275 | 0.29  | 1.96   | Not Significant |
|     | Female | 74    | 3.63 | 0.48 |     |       |        |                 |
| 7   | Male   | 203   | 3.50 | 0.50 | 275 | 0.48  | 1.96   | Not Significant |
|     | Female | 74    | 3.54 | 0.50 |     |       |        |                 |
| 8   | Male   | 203   | 3.67 | 0.47 | 275 | 0.94  | 1.96   | Not Significant |
|     | Female | 74    | 3.72 | 0.44 |     |       |        |                 |

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|                   |        |     |      |      |             |                        |      |                 |
|-------------------|--------|-----|------|------|-------------|------------------------|------|-----------------|
| 9                 | Male   | 203 | 3.50 | 0.50 | 275         | 1.15                   | 1.96 | Not Significant |
|                   | Female | 74  | 3.58 | 0.49 |             |                        |      |                 |
| 10                | Male   | 203 | 3.61 | 0.50 | 275         | 1.54                   | 1.96 | Not Significant |
|                   | Female | 74  | 3.71 | 0.48 |             |                        |      |                 |
| <b>Grand Mean</b> |        |     |      |      | <b>0.70</b> | <b>Not Significant</b> |      |                 |

In Table 3, the calculated-t values of all the items were less than the Critical-t of 1.96. The grand mean of 0.70 was also less than the critical-t. This suggests that there is no significant difference in the mean ratings of male and female administrative office managers in tertiary institutions on word-processing competencies required in the utilization of electronic records.

### Research Hypothesis Two

There is no significant difference in the mean ratings of administrative office managers in urban and rural areas in tertiary institutions on cloud storage competencies required in the utilization of electronic records.

The t-test analysis of data collected to test null hypothesis one is presented in Table 4

**Table 4: T-test analysis of administrative office managers in urban and rural areas in tertiary institutions on cloud storage competencies**

| S/N               | Location | N=277 | Mean | Std. | Df          | t-cal                  | t-crit | Decision        |
|-------------------|----------|-------|------|------|-------------|------------------------|--------|-----------------|
| 11                | Urban    | 245   | 3.65 | 0.47 | 275         | 0.35                   | 1.96   | Not Significant |
|                   | Rural    | 32    | 3.62 | 0.49 |             |                        |        |                 |
| 12                | Urban    | 245   | 3.55 | 0.49 | 275         | 0.58                   | 1.96   | Not Significant |
|                   | Rural    | 32    | 3.50 | 0.50 |             |                        |        |                 |
| 13                | Urban    | 245   | 3.57 | 0.50 | 275         | 1.52                   | 1.96   | Not Significant |
|                   | Rural    | 32    | 3.71 | 0.45 |             |                        |        |                 |
| 14                | Urban    | 245   | 3.60 | 0.49 | 275         | 1.95                   | 1.96   | Not Significant |
|                   | Rural    | 32    | 3.78 | 0.42 |             |                        |        |                 |
| 15                | Urban    | 245   | 3.62 | 0.48 | 275         | 0.73                   | 1.96   | Not Significant |
|                   | Rural    | 32    | 3.68 | 0.47 |             |                        |        |                 |
| 16                | Urban    | 245   | 3.58 | 0.47 | 275         | 1.46                   | 1.96   | Not Significant |
|                   | Rural    | 32    | 3.71 | 0.45 |             |                        |        |                 |
| 17                | Urban    | 245   | 3.67 | 0.46 | 275         | 0.82                   | 1.96   | Not Significant |
|                   | Rural    | 32    | 3.75 | 0.43 |             |                        |        |                 |
| 18                | Urban    | 245   | 3.59 | 0.49 | 275         | 0.65                   | 1.96   | Not Significant |
|                   | Rural    | 32    | 3.65 | 0.48 |             |                        |        |                 |
| <b>Grand Mean</b> |          |       |      |      | <b>1.00</b> | <b>Not Significant</b> |        |                 |

Table 4 revealed that the calculated-t value of all the items were less than the Critical-t of 1.96. The grand mean of 1.00 was also less than the critical-t. This suggests that there is no significant difference in the mean ratings of administrative office managers in urban and rural areas in tertiary institutions on cloud storage competencies required in the utilization of electronic records.



## **DISCUSSION**

Findings revealed that word-processing competency is required by administrative office managers in the utilization of electronic records in tertiary institutions. In tertiary institutions, professionalism is highly expected in the creation of documents that leaves to the outside world. It is imperative that the administrative office manager possess word-processing competencies with essential functions that include: input, manipulation, formatting, saving and output. Basically, text is entered into the word processor using a keyboard. Young (2020) found copying text from applications and pasting it into a word-processing document; scanning printed documents and using voice-recognition software to convert spoken words into text characters as word processing competencies that such be mastered.

Findings further revealed that there is no significant difference in the mean ratings of male and female administrative office managers in tertiary institutions on word-processing competencies required in the utilization of electronic records. There are not reserved functions for a male or female administrative office manager. In this regard, the finding is in contrast with Azih et al (2019) that there is a significant difference in the mean responses of male and female administrative office managers on word processing skills needed for effective secretarial performance. Both require same kind of competencies in word-processing to be able to create professional attractive document especially in the tertiary institutions which are the citadel of learning. The finding is in line with Ogbonna, et al (2019) that competencies in word processing are important for job performance, irrespective of the users' gender. By extension, there is no discrimination in the utilization of word-processing competencies.

Findings revealed that cloud storage competency is required by administrative office managers in the utilization of electronic records in tertiary institutions. Cloud storage competencies are required by administrative office managers in tertiary institutions to facilitate the saving of information in the cloud enabling environment which can be downloaded when it is needed. As the tertiary institutions continue to grow in size and in volume of activities, the volume of their records also increases and will be needed to manage effectively. Over time, the regular storage devices like floppy diskette, CD, DVD, flash drive or hard drive may not be able to contain all the records of the institution. Cloud storage becomes helpful to care for such limitations. With cloud storage institutions do not need the traditional storage devices anymore. That saves a lot of cost and space for the organization. Besides, the organization can access their information with any device anytime and anywhere if it is on cloud. The finding is in line with Bigelow and Rosencrance (2020) who noted that many cloud service providers provide users with access to data remotely so they can access their personal data on any device, whenever and wherever they want.

The finding is also in affirmation with Huth and Cebula (2011) that while the traditional computer setup requires organizations to be in the same location as their data storage device, the cloud takes

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away that step by removing the need to be in the same physical location as the hardware that stores data. Cloud is an emerging technology in the 21<sup>st</sup> century, it is imperative for administrative office managers to possess cloud competencies to save and retrieve information to perform office task.

Findings further revealed that there is no significant difference in the mean ratings of administrative office managers in urban and rural areas in tertiary institutions on cloud storage competencies required in the utilization of electronic records. Cloud storage can be done and assessed from all locations, urban and rural areas making it an important records storage approach. This is because the foundation for cloud storage is the Internet. That makes it possible to access information from anywhere at any time. The finding is supported by Simelane et al (2016) who confirmed that cloud computing can be used both in urban and rural areas. This means that the location of a tertiary institution does not prevent the use of cloud storage and hence, administrative office managers in either urban or rural area require cloud storage competencies.

## CONCLUSION

Tertiary institutions serve as the citadel of learning. As a home of excellence, professionalism is highly expected in the creation of documents that are used within and those that leave to the outside world. It is imperative that administrative office manager possess word-processing competencies with essential functions that include: input, manipulation, formatting, saving and output; to aid the quality of their work. Cloud storage competency is also required by them to facilitate the saving of information in cloud enabling environment which can be downloaded when needed from any location. The aforementioned competencies are required as they contribute to the administrative office managers' productivity and are not sensitive to gender or location. Beside, these competencies can be acquired through training and retraining of staff and be applied in any location of the institution.

## Recommendations

Based on the findings of the study it was recommended that:

1. Tertiary institutions that employ administrative office managers should organize seminars and workshops to provide competency training in word-processing and cloud storage to enable them handle electronic records in any office they find themselves.
2. Word-processing and cloud storage should be included in Business Education curriculum as competencies needed in electronic records keeping system.

## REFERENCES

- Anderson, K. (2007). *Evidence and memory: records services and archives*. Retrieved from <https://www.sciencedirect.com/topics/computer-science/archival-theory>
- Azih, N., Ogala, C. S., & Okoronkwo, R. (2019). Word Processing and Data Base Management Skills needed by Secretaries for Effective Secretarial Performance in Tertiary Institutions in Ebonyi State, Nigeria. *Middle-East Journal of Scientific Research* 27 (3), 226-234

Publication of the European Centre for Research Training and Development-UK

- Bigelow, S. J., & Rosencrance, L. (2020). *Cloud computing*. Retrieved from <https://search.cloudcomputing.techtarget.com/definition/cloud-computing> \
- Bujdosó, G. (2011). Analyzing differences in education by gender by using word processing. *Proceedings of ICERI Conference* (4042-4048). Madrid, Spain.
- Dyubele, S., Cele, N. P., & Mbangata, L. (2020). *Assessing the challenges that are confronted rural-based SMEs on the implementation of cloud services*. Retrieved from <https://dl.acm.org/doi/10.1145/3415088.3415100>
- Ezenwafor, J. I., & Gude, G. A. (2020). Administrative supervisors' assessment of word processing and spreadsheet competencies possessed by office technology and management graduate workers in Northwest Nigeria polytechnics. *Nigerian Journal of Business Education (NIGJBED)*, 7 (2), 252-264
- Glassdoor (2020). *What is an administrative officers?*<https://www.glassdoor.com/Job-Descriptions/Office-Manager.htm>
- Hope, C. (2018). *Word processing*. Retrieved from <https://www.computerhope.com/jargon/w/word-processing.htm>
- Michael, C. J. (2019). *Electronic records: definition, principles, and applications*. Retrieved from <https://www.ewsolutions.com/electronic-records-definition-principles-and-applications/>
- Öberg, L., & Borglund, E. (2006). What are the characteristics of records? *International Journal of Public Information Systems*, 2006 (1), 55-76
- Ogbonna, C. G., Ibezim, N. E., & Obi, C. A. (2019). Synchronous versus asynchronous e-learning in teaching word processing: An experimental approach. *South African Journal of Education*, 39 (2), 1-15
- Oko, M. C., Egba, A. C., Egba, E. I., Achimugu, O & Achimugu, P. (2016). Improving data handling in Nigerian tertiary institutions through effective electronic record management. *India Journal of Science and Technology*, 9(46)
- Simelane, P. T., Kogeda, O. P., & Lall, M. (2016). *A cloud computing augmenting agricultural activities in marginalized rural areas: a preliminary study*. Retrieved from <https://www.researchgate.net/publication/281493523>
- Tyrocity (2021). *Concept of record management*. Retrieved from <https://tyrocity.com/topic/concept-of-record-management/>
- Young, R. L. (2020). *Word processing*. Retrieved from <https://www.encyclopedia.com/science-and-technology/computers-and-electrical-engineering/computers-and-computing/word-processing>