

## **Information and communication technology (ICT): A tool for the effective management of students' academic records in Federal Polytechnic, Nekede, Owerri, Imo State, Nigeria**

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### **Abstract**

The study investigated information and communication technology as a tool in the effective management of students' academic records using Federal Polytechnic Nekede, Owerri as a focal point. The objectives of the study are to identify the types of students' academic records generated/received in Federal Polytechnic, Nekede, Owerri; to investigate the role of ICT in students' academic records management, to find out the types of ICT tools used in the management of students' academic records in Federal Polytechnic, Nekede, Owerri. The population of the study comprised 45 respondents made up of both junior and senior staff of the departments in charge of students' academic records. The study adopted survey research design and the questionnaire entitled "Adoption of ICT as a tool for Effective Management of Students' Academic Record (AICTEMSAR)" was used in data collection while data analysis was done using mean, tables and percentages. The study revealed the types of students' academic records mostly generated and received by the school which include students' results from various departments, statement of results, copies of original certificates etc. ICT tools like computers, internet, e-mails, etc. are used in the school. Challenges revealed include lack of maintenance culture, lack of funds, lack of IT skills etc. The study recommends among others that school management should ensure adequate maintenance of IT tools for quality services delivery, provide funds for the purchase and installation of current internet facilities, provision of guidelines that will spell out the types of students' academic records to be generated in every department and management should enhance the use of ICT facilities in managing students' academic records by training staff at workshops on computer operations.

**Keywords:** Information and communication technology (ICT) tools, effective management, records management, students' academic records, Federal Polytechnic, Nekede, Owerri

### **Introduction**

Information and records are essential resources for any company to thrive and every organization depends on them for its survival. The preservation and management of records in every organization has taken a technological and digital format. That is why, Mabera (2015), in the Joint Information Systems Committee (JISC), divided students' records into three general categories. The first kinds of students' records are those that establish a connection

between the student and the institution, like admission and enrollment, tuition payments, and academic disciplinary actions. The second category of a student's records provides information on the student as a learner, such as programmes taken, academic advancement, and performance honors. The third category of student data pertains to the individual student as a user of the institution's services, including housing, counselling, the library, and IT support. The document went on to say that while the

majority of records in categories 1 and 3 have specific retention periods that are initiated by the formal termination of a student's direct relationship with the university, the data contained therein may still be compiled and analyzed to support the institution's planning and development efforts. Some of the category 2 data must be kept on file by an institution in order to confirm information for possible employers, professional bodies and associations, and bodies that oversee admission into certain professions, or to resolve a contentious matter (Mabera, 2015). Adade, Dampson, Quashigah, and Eshun (2018) backed up this claim by stating that whenever there is a contentious issue involving certificates given to students, consulting the institution's academic records archive for verification and confirmation may be the simplest way to settle tensions and establish the accuracy and authenticity of such documents.

In most firms today, modern technology has become the cornerstone for process improvement and enhanced accuracy, effectiveness, and efficiency. One area where the use of technology has become unavoidable is in records management (RM). In other words, ICT has facilitated the management of information from print to digital, which has brought a very positive effect on students' academic records and information (Gbaje, 2009). This has made networking, resource sharing, and online access and file transfer possible. Furthermore, records can be found on a variety of media resources but before the development of information and communication technologies, the information professionals handled a variety of tasks relating to the use of computers and other new technologies.

By way of definition, academic records are important records that provide important data about students' programs and

performance in schools. Subsequently, tertiary institutions in Nigeria receive records of several kinds which include academic records for students, such as admission files, admission letters, payment records, medical records, continuous assessment records, exam scripts, exam results, accommodation records, end-of-semester academic progress reports, etc., (Shehu, 2017). In lieu of the above, ICT roles in managing students' academic records, the different types of students' academic records produced, and the ICT storage devices utilized in managing students' academic records in the records and statistics department cannot be overemphasized. And due to the fact that many institutions are still applying the analog method of information and records management and storage, this study is hereby filling the gap in the system. The students' academic records management today rarely functions without computers and information and communication technology tools in the modern world. Therefore, the focus of this study is on how ICT tools improved the management of students' academic records at the Federal Polytechnic Nekede Owerri and the challenges they are facing in using these tools.

### **A brief history of Federal Polytechnic, Nekede, Owerri, Imo State**

The Federal Polytechnic, Nekede Owerri is established by federal government and it is situated in Nekede, Owerri West local government area in Imo state, South Eastern, Nigeria. It was established in 1978 as College of Technology, Owerri in its temporary site at Government Technical College, Egbo road, Owerri. It later moved to its permanent and present site and was later changed to The Polytechnic, Nekede. On 7<sup>th</sup> April, 1993, The Polytechnic Nekede

was taken over by the federal government and was renamed "The Federal Polytechnic, Nekede" in 1991. The school offers National Diploma and Higher National Diploma at its undergraduate level and equally offers one year certificate programmes in some courses. It has 8 schools/faculties which include:

- i) School of Engineering Technology (SET)
- ii) School of Industrial and Applied Science (SIAS)
- iii) School of Business Management Technology (SBMT)
- iv) School of General Studies (SGS)
- v) School of Information and Communication Technology (SICT)
- vi) School of Agriculture and Agricultural Technology (SAAT)
- vii) School of Environmental Design and Technology (SEDT)
- viii) School of Health and Related Technology (SHRT)

The polytechnic has some other administrative units such as Exams unit, Records and Statistics unit, Academic planning unit, Senior and Junior Personnel Matters Unit, ICT unit, Bursary unit etc. It equally has evening and weekend programmes in different courses. The Rector of the Federal Polytechnic, Nekede Engr. Dr. Micheal Arimanwa, took over the mantle of leadership of the school on October 3, 2018 as the 8<sup>th</sup> substantive and first alumnus Rector of the school. He is at the verge of handing over to another person as the Rector of this school this year as his tenure ends soon.

### **Statement of the problem**

Despite the numerous ICT tools in use in various offices and institutions for record keeping and information management, there

is still need to look into the laxity of some institutions' management that are still involved in the analog and manual method of records keeping and management in this 21<sup>st</sup> century. This is attributed to the fact that many offices and institutions' management lack maintenance culture and the integrity to make judicious use of the funds apportioned to the purchase of current ICT tools and updating of the already existing internet facilities, even to subscribe to internet server is a problem. The problem is also coupled with the dearth of so many contextualized and localized research works that focused only on meaning of ICT, tools for records keeping and management, types of information to be managed, types of ICT tools that institutions use in record management etc without looking into the challenges. In lieu of the above, it could be contented that the federal Polytechnic, Nekede, Owerri has adopted ICT tools for students' records management but lack maintenance culture and the wherewithal to acquire current and update obsolete ICT tools. It was against this backdrop that this research was carried out to ascertain that ICT tools are effective and efficient tools for students' academic records management at Federal Polytechnic, Nekede, Owerri, Imo state.

### **Objectives of the study**

The primary objective of the study is to evaluate how ICT tools are used in the Records and Statistics Department of Federal Polytechnic Nekede, Owerri in handling students' academic records. In particular, the objectives are to:

1. Explore the types of students' academic records generated/received in Federal Polytechnic, Nekede, Owerri, Imo State
2. Identify the roles of ICT tools in managing students' academic

records at Federal Polytechnic Nekede, Owerri, Imo State

3. Ascertain the ICT tools used in managing students' academic records in Federal Polytechnic, Nekede, Owerri, Imo State
4. Examine the factors militating against the use of ICT as a tool for the effective management of students' academic records at Federal Polytechnic, Nekede, Owerri, Imo State

### Research questions

The following questions are answered in the study:

1. What are the types of students' academic records generated/received in the Federal Polytechnic, Nekede, Owerri, Imo State?
2. What are the roles of ICT tools in managing students' academic records in Federal Polytechnic, Nekede, Owerri?
3. What are the ICT tools used in managing students' academic records in the Records and Statistics Department of Federal Polytechnic, Nekede, Owerri, Imo, State?
4. What are the factors militating against the use of ICT as a tool for the effective management of students' academic records at Federal Polytechnic, Nekede, Owerri, Imo State?

### Literature review

One of the wonders of the twenty-first century is the emergence of the information and Communication Technology. The massive interest in electronics computing and communication has caused microelectronics to advance quickly (Igufueko, 2011). In furtherance, Onuoha, Adeoye, Obiano and Monturayo (2021),

opined that in today's digital world, the penetrating influences of internet and ICT tools have in no small measure transformed the way and manner with which people interact and communicate. This therefore, refers to the use of electronic computers for the digital processing of information whereby information is stored, retrieved, converted, and transmitted. ICT can be referred to all types of computer communications, hardware and software that are used to create, design, store, transmit, interpret, and otherwise modify information in its different formats on devices including desktops, laptops, and tablets (Chandler & Munday, 2012). When ICT is brought up, computers, telecommunications and ICT go hand in hand. These three make up the bulk of ICT equipment in use today.

A few of the ICT tools included in the National Universities Commission's (2008) recommendations include CDROM, DVD, or VSB Sticks, as well as e-books, computer. These are some of the appropriate ICT tools for record keeping. Since none of the aforementioned is sufficiently used in higher education, Nworgu (2006), suggests that government spend on education be increased. He urged that both the federal and state governments should enhance funding for education and provide higher education institutions with the fundamental ICT infrastructure they need, including enough computers and internet access. This is due to the fact that the 21st century is developing the conditions for an upcoming high technology age at a rate that is practically as fast as light.

Records management can be defined as a well-documented system for the management of data in an organization. This procedure may address concerns with identification, disposal, storage, possession, access, and security of records. According to Onifade (2014), records are information or

data that has been gathered, arranged, and maintained about a specific subject. According to this definition, any processed or unprocessed data that is gathered and stored for later use qualifies as a record. To put it another way, a record is a written record of a transaction. Mnjama (2009) described records management as the part of general administration that is concerned with attaining economy in the development, use, maintenance, and disposal of documents as one of the attempts to explain the complicated notion of records management. Chukwuma (2006), who advocated the idea of using a system approach to the conceptualization of records management, which he labeled as "Records Management System," emphasized an intriguing dimension in attempts to provide an insight into the right definition of the concept of records management. Whatever the records, it's critical that the personnel become knowledgeable about the ethical and legal standards for recordkeeping in their particular professional setting and jurisdiction. As a result, maintaining records must adhere to a certain level of secrecy, proper upkeep, security, preservation of the content and context, etc. Unfortunately, due to a lack of managerial components, Nigerian record keeping and organization, particularly in higher education institutions, has not been very successful. Ibiam, (2004) highlighted in a paper written in support of the findings above that the education system had suffered greatly from years of neglect, and record keeping was no exception. Both the administrative and instructional staff of the school has essential roles to play in record keeping.

Considering that even after graduating, students may return to the university to request any pertinent academic documents either to pursue a postgraduate education or for referee notes, the

educational life cycle of a student and his association with the university, (Shun, Adade, Dampson and Quashigah, 2018). There are two types of records that describe a student's relationship with the university: "current" records and "semi-current" records. Students' records are regarded as "current" while they are still enrolled at the university. When the students leave, their records are considered to be "semi-current." The semi-current documents will gradually be converted to non-current records, which will ultimately either be permanently destroyed or maintained in the university archive or records center.

Additionally, school academic records contain information about each student's personnel, academic performance, assessments, and examination results as well as school policies, minutes of school-based meetings, and data from solicitors, press outlets, public bodies, and ministries of education and other educational bodies (Osakwe, 2011). Academic pursuit is a typical activity at polytechnic institutions where programmes, admissions, sale of forms, purchases, and admission form filling are a few of these activities. Others include evaluating newly admitted students for registration and course changes, orientation, matriculation, lectures, examinations, and continuing evaluations. During the course of these activities, a variety of records and information are created, including, among other things, exam results, academic transcripts of graduated or transferred students, semester examinations, faculty and departmental board meetings, staff and student disciplinary reports, payment information, issuance of a statement of results and certificates to graduating students, National Youth Service Corp Mobilization List, and the publication of Special Reports.

Academic records of students are excellent and of utmost significance in any organization, particularly in institutions of higher learning. The office of the registrar, exams unit, records' and statistics unit, bursary unit, library department, etc., maintain students' academic records at institutes of higher learning. According to Mohammed and Aondover (2021), institutions produce and receive records in a variety of formats. These contain records of test and entrance exam results, final transcripts, graduation lists, grade reports, and transcripts from other universities. Information on the student's health, including their sex, marital status, date of birth, ethnicity, and registration number, as well as personal and enrollment information about an action involving academic integrity or a policy violation involving academic integrity, counselling data, requests for admittance, Disciplinary infractions, academic infractions, Letter of acceptance, Post. Academic records are important records that provide important data about students' programs in schools. Tertiary institutions in Nigeria receive records of several kinds. Academic records for students, such as admission files, admission letters, payment records, medical records, continuous assessment records, exam scripts, exam results, accommodation records, end-of-semester academic progress reports, etc., are included in this category of documents, (Shehu, 2017). In another development, it was recorded that admission list and letters, course registration forms, academic transcripts, semester results, personal file, statement of results for graduates, undergraduate and postgraduate certificates, graduation list, payment information for school fees/accommodation, examination malpractice, minutes and reports, dissertation, theses, and projects are the information needed in offices that

require efficient recording and management.

Information and communication technology use in the management of students' academic records is a great and acceptable idea in information and records management due to its efficiency and effectiveness. Therefore, the application of ICT tools in the management of students' academic records cannot be overemphasized. In the light of the above, some researchers have posited so many reasons why ICT tools should be applied in records management, and such author as Nworgu (2006), highlighted that ICT facilities are used to record personal information about students, such as admissions information, and the types of programs they are enrolled in, such as sandwich, part-time, and nighttime distant learning programs etc. Furthermore, he noted that ICT tools must be used to manage students' records for proper record keeping and preservation. Another researcher, Dalton (2014), opined that the section/unit of any high institution in charge of maintaining students' academic records and reviewing the accuracy of students' data upon matriculation should ensure the use of ICT tools in carrying out the assignments. This upkeep include making sure that all alterations to students' records, like name changes and grade changes, are made appropriately and in accordance with the institution's policies. Additionally, all final grades, including those from study abroad, test credit, and university extensions, are posted in this section. ICTs prohibit the excessive keeping of records that makes it impossible to retrieve them as well as the premature destruction of essential documents. Modern technology has made it possible for institutions to support records management in a growing number of ways and also reduces cost. Although paper

records will likely always exist and be created, technological tools are required to help firms manage their data efficiently and it equally helps to save cost because all it needs is to have data or Wi-Fi and the job is done.

ICTs provide an organization with previously unheard-of capabilities and potentials for managing and administering diverse types of records. Computers and other technology tools can be used for a variety of tasks, including records creation, delivery, and storage, and as a result they play a significant part in RM. Additionally, ICTs are adaptable instruments that can handle practically any records administration requirement and one of the benefits of information technology is their ability to multitask by quickly solving a large number of record management problems. A record initiator, for example, can generate, utilize, distribute, store, and retrieve a record on a single computer workstation, removing the massive army of secretarial and record keeping employees as well as the accompanying necessary records management space, equipment, and stationery.

ICTs provide alternatives for compact storage through electronic and digital storage devices, and information may be kept on a variety of sources like flash drives and Google Drive. This contrasts with bulky paper records that require a significant amount of room for storage. The lack of equipment and space are not issues. In support of this, Ralph and George, (2008) note that ICTs give organizations new capacities to manage massive amounts of information that they previously would not have been able to. They contend that computer systems can hold a lot of business records, as opposed to relying on handwritten scripts or manually entering data. Information can also be handled easily

because it doesn't need to be stored in large physical spaces like record centers.

In this present era, it is impossible to manage any type of operation without the usage of ICT tools. One industry in which technology is essential is Record Management (RM). Modern technology has created chances for RM assistance in firms that are expanding quickly. A wide variety of technologies are available to organizations that can be utilized to successfully and efficiently manage their records. ICTs provide an organization with previously unheard-of capabilities and potentials for managing and administering diverse types of records. Computers and other technology tools can be used for a variety of tasks, including records creation, delivery, and storage, and as a result they play a significant part in RM. Organizations all around the world are investing a lot of money in information technologies and services that allow their records management systems and services to go digital (Help Net Security, 2019). Ojo and Ugwuanyi (2006) specifically specified various ICT facilities that can be leveraged to guarantee efficient records management. These are a few of them:

- a) *Websites*: A collection of related web documents made available to the public via a web server is known as a website. A website typically has an index page or home page that loads when a user accesses the top level of the site.
- b) *E-mail*: Simply put, e-mail refers to electronic mail. It may be accessible online and offers a quick way to send or receive correspondences.
- c) *Compact disk*: CD-ROM stands for "read-only memory" and it is an optical disk format for storing pre-recorded texts, images, and audio. A

read-only disk, CD-ROM is similar to music CDs. The manufacturer is marked as read-only if the user is unable to write to or erase it. Up to 650 megabytes, or 300,000 text pages, of data can be stored on a CD-ROM disk.

- d) *Internet*: One of the most significant ICT facilities is the internet and Ekemezie and Ngene (2004) asserted that the international network, which has the biggest computer network in the world, is the ancestor of the global internet. Internet services are often broadcast over the airways, and only a local carrier or internet service provider can download them. There is a wealth of knowledge available on the internet, and it offers information on almost anything. Effective record management includes a number of key components, one of which is the use of ICTs to keep organizational records. When it comes to improving the storage of organizational information, cutting-edge computer storage technology and advanced retrieval methods like query languages, multimedia databases, and database management systems can be useful tools.

In as much as so many institutions have adopted the application of ICT tools in the management of their records, data, knowledge and information, there are still several factors that militate against the efficient and effective use of these tools in different institutions, some of which are:

- a) *Inadequate resources*: So many institutions are faced with the problem of inadequate needed ICT tools such as computers, datasets, networks, internet, hard disks, CD-ROM etc. that will be needed for

effective record keeping and management.

- b) *Lack of funds*: The application of ICT tools in institutions is cost intensive and as such maintenance of already existing ICT tools and acquisition of new ones become a problem because of the financial involvement. There are no adequate funds to make maximum use of ICT tools.
- c) *Lack of power supply*: It is an established fact that no office functions maximally without power supply. Due to incessant power outage and the high cost of petroleum products in the country, the use of these ICT tools is usually difficult in the absence of electricity, thereby bringing about low productivity and poor services delivery to clients.
- d) *Lack of needed ICT skills by staff*: In an organization or institution that most of the workers are not computer compliant, there will be a problem in the use of ICT tools. Even if the entire offices have all the ICT facilities without people manning them, it will be of no use and as well affect the institutions' productivity level.
- e) *Lack of maintenance culture by management*: This is a serious problem in our society. Those at the helm of affairs find it difficult to maintain existing facilities and structures that are wearing out in different offices thereby bringing about total collapse of those facilities. A recent incident that exemplifies this is the death of the young female medical doctor who fell in a non-functional elevator in



her office and died. This should be an eye opener for all.

### Methods

The survey research design was adopted for this study. The population of the study was made up of forty-five (45) staff of Federal Polytechnic Nekede, Owerri, in the departments that are in charge of record keeping and management (See Table 1). The main instrument employed in this study was a researcher-made questionnaire having

a 4-point- type of rating scale, ranging from strongly Agreed (SA), Agreed (A), Disagreed (D), and Strongly Disagreed (SD) to allow responses to each of the statements and questions in agreement or disagreement. The questionnaires were personally administered and all were retrieved. In analyzing the data, a descriptive sample mean, percentages and tables were used and a criterion mean of 2.5 was applied.

**Table 1: Departments of respondents that are in charge of students' academic records in Federal Polytechnic, Nekede, Owerri**

| Num.  | Departments   | Respondents | %     |
|-------|---|-------------|-------|
| 1.    | Office of Deputy Registrar, Senior and Junior Personnel | 8           | 17.78 |
| 2.    | Directors' Office (all the units listed)                | 10          | 22.22 |
| 3.    | Office of the assistant director (all the units listed) | 2           | 4.44  |
| 4.    | File unit   | 5           | 11.11 |
| 5.    | Records and Statistics Unit                             | 12          | 26.67 |
| 6.    | Exams unit  | 8           | 17.78 |
| Total |   | 45          | 100%  |

### Results

The results are presented in this section.

Table 1 shows the departments of the respondents who are in charge of students' academic records keeping and management

**Research question 1:** What are the types of students' academic records generated/received in Federal Polytechnic, Nekede, Owerri, Imo State?

The data in Table 2 provide answer to this question.

Table 2, shows the summary responses of the respondents on each option specified as

the types of students' academic records they generate in their different departments. Their responses show that all the options reflect the types of students' academic records they generate and also receive in their departments but one item (academic offenses) is insignificant with the lowest mean score of 2.06. The result shows that original certificates with a mean score of 3.66, Students' examination results from the departments with a mean score of 3.64, Graduation List with a mean score of 3.58, Applications for Admission with a mean score of 3.00, post UTME/DIRECT ENTRY screening database with a mean score of 3.56, Students' academic transcripts with a mean score of 3.55, Transcripts from other institutions with a mean score of 3.6, Statement of results with a mean score of

3.42, Payment records with a mean score of 2.77 are generated and received in their departments.

records in Federal Polytechnic, Nekede, Owerri?

**Research question two:** What are the roles of ICT tools in managing students' academic

The data in Table 3 provide answer to this question.

**Table 2: Types of students' academic records**

| Students' academic record                              | SA         | A          | D          | SD             | $\bar{x}$ |
|--|------------|------------|------------|----------------|-----------|
| Students' Examination results from various departments | 31(68.88%) | 12(26.66%) | 2(4.44%)   | 0-----<br>--   | 3.64      |
| Students' Academic transcripts                         | 30(66.66%) | 11(24.44%) | 3(6.66%)   | 1(2.2<br>2%)   | 3.55      |
| Academic offenses                                      | 8(17.77%)  | 7(15.55%)  | 10(22.22%) | 20(44<br>.4)   | 2.06      |
| Applications for admission                             | 20(44.4%)  | 10(22.22%) | 10(22.22%) | 5(11.<br>11)   | 3.00      |
| Graduation list  | 31(68.88%) | 10(22.22%) | 3(6.66%)   | 1(2.2<br>2%)   | 3.58      |
| Post UTME/DIRECT ENTRY screening results,              | 29(64.44%) | 13(28.88%) | 2(4.44%)   | 1(2.2<br>2%)   | 3.56      |
| Transcripts from other institutions                    | 30(66.66%) | 12(26.66%) | 3(6.66%)   | 0 -----<br>-   | 3.60      |
| Statement of results                                   | 25(55.55%) | 15(33.33%) | 4(8.88%)   | 1(2.2<br>2%)   | 3.42      |
| Original Certificates                                  | 30(66.66%) | 15(33.33%) | 0 -----    | 0 -----<br>--- | 3.66      |
| Payment records  | 10(22.22%) | 20(44.44%) | 10(22.22%) | 5(11.<br>11)   | 2.77      |

**Table 3: The roles of ICT tools in managing students' academic records**

| Roles of ICT tools  | SA         | A          | D          | SD         | $\bar{x}$ |
|---|------------|------------|------------|------------|-----------|
| ICT facilities like the computer for the recording of students' admission data. | 30(66.66%) | 10(22.22%) | 4(8.88%)   | 1(2.22%)   | 3.53      |
| Use of electronic examination instead of manual.                                | 10(22.22%) | 10(22.22%) | 11(24.44%) | 14(31.11%) | 2.35      |
| Online computation and transfer of results                                      | 15(33.33%) | 14(31.11%) | 8(17.78%)  | 8(17.78%)  | 2.80      |
| The internet enables students to browse their results.                          | 30(66.66%) | 11(24.44%) | 3(6.66%)   | 1(2.22%)   | 3.55      |
| Computerization of past students' records                                       | 29(64.44%) | 12(26.66%) | 2(4.44%)   | 1(2.22%)   | 3.48      |
| Typing and printing exam answer sheets  | 15(33.33%) | 15(33.33%) | 5(11.11%)  | 10(22.22)  | 2.77      |
| ICT enables Online Transcript processing.                                       | 15(33.33%) | 20(44.44%) | 5(11.11%)  | 5(11.11%)  | 3.00      |
| Protects vital records from destruction   | 15(33.33%) | 20(44.44%) | 6(13.33%)  | 4(8.88%)   | 3.02      |
| Printers for printing results and students' transcript copy                     | 20(44.44%) | 20(44.44%) | 5(11.11%)  | 0 -----    | 3.33      |
| Scanning of students' results and other documents                               | 20(44.44%) | 22(48.88%) | 3(6.66%)   | 0 -----    | 3.37      |

Table 3 shows the summary responses and the percentage scores of the respondents to each option specified as the roles of ICT in managing students' academic records. The results showed that checking results online has the highest mean score of 3.55 because the school management has recently mandated students to check their semester results online, followed by utilization of ICT facilities for recording students' admission data with a mean score of 3.53, Computerization of past students' records with a mean score of 3.48, Printers for printing results and students' transcript copy with a mean score of 3.33, Scanning of results with a mean score of 3.37, ICT protects vital records from destruction with a mean score of 3.02, ICT enables Online

Transcript processing with a mean score of 3.00 e.t.c are some effective roles of ICT use in student's academic record management at Federal Polytechnic, Nekede. Taking electronic examination rather than manual got the lowest mean score of 2.35 which is below the 2.50 criterion and acceptable score. It shows that examinations at federal polytechnic, Nekede are still manually taken not computer based.

**Research question three:** What are the ICT tools used in managing students' academic records in Federal Polytechnic, Nekede, Owerri, Imo, State?

The data in Table 4 provide answer to this question.

**Table 4: ICT tools used in the management of students' academic records**

| ICT tools    | SA         | A          | D          | SD         | $\bar{x}$ |
|--------------|------------|------------|------------|------------|-----------|
| Computer     | 30(66.66%) | 10(22.22%) | 3(6.66%)   | 2(4.44%)   | 3.51      |
| Internet     | 30(66.66%) | 11(24.44%) | 2(4.44%)   | 2(4.44%)   | 3.53      |
| E-mails      | 25(55.55%) | 15(33.33%) | 4(8.88%)   | 1(2.22%)   | 3.42      |
| Hard disks   | 20(44.44%) | 20(44.44%) | 4(8.88%)   | 1(2.22%)   | 3.31      |
| Flash Drives | 20(44.44%) | 15(33.33%) | 7(15.55%)  | 3(6.66%)   | 3.15      |
| Website      | 29(64.44%) | 10(22.22%) | 5(11.11%)  | 1(2.22%)   | 3.48      |
| Compact disk | 10(22.22%) | 10(22.22%) | 10(22.22%) | 15(33.33%) | 2.33      |
| SD cards     | 15(33.33%) | 15(33.33%) | 5(11.11%)  | 10(22.22%) | 2.77      |
| Memory cards | 10(22.22%) | 5(11.11%)  | 10(22.22%) | 20(44.44%) | 2.11      |

Table 4 shows the responses and percentage scores on the ICT devices in which students' academic records are stored in their department for managing the student's academic records. The overall response in the table is thus positive. More specific details revealed that the highest mean was items number two and one, which stated that "students' academic records are stored in the computer (3.51) and internet (3.53) in records and statistics department of Federal Polytechnic, Nekede, this indicates that the department is highly digitalized. Table 4 above shows that all the ICT facilities listed, e-mails with a mean score of 3.42, emails

(3.42), hard disk (3.31), flash drives (3.15), and the Website with a mean score of 3.48 and the other listed facilities are of great importance in the department for the effective management of students' academic records. Each of the ICT facilities was highly rated by the respondents, on the other hand, memory cards and compact disk had the lowest mean ratings of 2.11 and 2.33 respectively showing that Federal Polytechnic, Nekede, Owerri does not make high use of them.

**Research question four:** What are the factors militating against the use of ICT as a

tool for the effective management of students' academic records at Federal Polytechnic, Nekede, Owerri, Imo State?

The data in Table 4 provide answer to this question.

**Table 5: Factors militating against the use of ICT tools in Federal Polytechnic, Nekede, Owerri.**

| Factors                                   | SA         | A          | D         | SD       | $\bar{x}$ |
|---|------------|------------|-----------|----------|-----------|
| Inadequate Resources                      | 30(66.66%) | 10(22.22%) | 3(6.66%)  | 2(4.44%) | 33.51     |
| Lack of funds                             | 30(66.66%) | 11(24.44%) | 2(4.44%)  | 2(4.44%) | 33.53     |
| Lack of Power Supply                      | 30(66.66%) | 11(24.44%) | 3(6.66%)  | 1(2.22%) | 33.55     |
| Lack of needed ICT skills                 | 29(64.44%) | 10(22.22%) | 5(11.11%) | 1(2.22%) | 33.48     |
| Lack of maintenance culture by management | 30(66.66%) | 11(24.24%) | 3(6.66%)  | 1(2.22%) | 33.55     |

Table 5: Use of ICT tools as observed from the above responses face a lot of challenges in Federal Polytechnic, Nekede, Owerri with item no. 1, inadequate resources having a mean of 33.51, lack of funds rated 33.51, lack of power supply also got mean response of 33.55, lack of needed ICT skills by staff got mean response of 33.48 while lack of maintenance culture by school management rated 33.55 mean response. From the percentage scores also one can deduce that use of ICT tools in federal polytechnic is facing a lot of challenges. Since the decision rule is 2.5, the above response rates indicate that there are factors militating against the use of ICT tools in federal polytechnic, Nekede, Owerri with the mean results that fell far above the acceptable mean of 2.5.

### Discussion

Records such as students' examination results from various departments, students' academic transcripts, applications for admission, graduation lists, Post-UTME/direct entry screening databases, transcripts from other institutions, Statements of results, original certificates, etc. are mostly generated and received in the department of records and statistics, according to the findings regarding the types of students' academic records they

generate/receive there. The results of this study are consistent with those of Mohammed and Aondover (2021), who found that institutions produce and receive various types of records in a variety of formats, including records pertaining to grade reports, transcripts from other colleges, graduation lists, transcripts, and other records.

ICT tools are important in maintaining students' academic records in the exams and records department of every institution. It was also noted that computers are used to complete the majority of their tasks, including recording of students' admission data, checking results online, protecting crucial records from destruction, processing online transcripts, scanning results, etc. The study revealed a number of significant roles that ICT facilities play in managing and safeguarding students' academic records. This finding is in line with the findings of Nworgu (2006), who noted that ICT facilities are used to record students' personal data like admission data, and type of programs which include, sandwich, part-time programs, evening distance learning programs he also stated that there is need to use ICT facilities in handling students' records. The study equally revealed that ICT tools like computers, the Internet, email, hard disks,

websites, flash drives, etc. are used in the department for storing and protecting students' academic records from damage as well as for consultation when determining the different types of ICT storage devices used in the department. This finding is consistent with that of Ojo and Ugwuanyi (2006), who named computers, the internet, emails, and websites as several ICT equipment that can be employed to ensure successful student record management. The study also revealed that there are factors militating against use of ICT tools in the management of students' academic records such as lack of funds, inadequate ICT resources, lack of maintenance culture etc.

### **Conclusion**

The adoption and use of ICT facilities in managing students' academic records, according to this study, greatly enhances the management and administrative system of federal polytechnic, Nekede, Owerri. This study evaluated the use and role of ICT in the efficient management of students' academic records in Federal Polytechnic, Nekede, Owerri. Irrespective of the high use and adoption of ICT tools in the school under study, the study revealed that there are some ICT tools that are not yet adequately in use in the school such as compact disk that got a mean response rate of 2.33 and memory card with mean of 2.11. This is due to the fact that the school management lacks maintenance culture and inadequate resources for students' academic records management as the study revealed. Therefore, ICT tools should be applied in students' academic records management to enhance productivity because manual recording of students' academic data will not produce efficient outcomes and low productivity rate will be the order of the day. Furthermore, the risk of loss of information of students' academic records will be

experienced if ICT facilities are not utilized to a large extent.

Based on the findings of the study, the following recommendations were proffered:

1. For each unit/department that is in charge of students' academic records management, there should be guidelines, standard operating procedures, and the provision of a regulatory framework that will specify the types of students' academic records that are to be generated and received by each department. This will prevent accumulating and stocking unnecessary and irrelevant records and filling up the computer memory.
2. Since the roles of ICT tools cannot be over emphasized as revealed by this study, funds should be made available by the management for the purchase, subscription and replacement of obsolete internet facilities and training of the staff in ICT skills for them to acquire the necessary skills for efficient use of the ICT tools.
3. From the revelation of the study, there was a mean response rate in the use of compact disk and memory cards. Therefore the study recommends that the management should always ensure that the needed resources for ICT enhanced use are provided.
4. Management of the institution should ensure there is steady power supply, enabling environment, staff who are computer compliant are employed etc to enable them to carry out their work effectively and render quality services to the students and other staff. Another problem in network environments is virus attack. To maintain the records electronically,

the record keepers should always update their system by installing anti-virus in the computers to avoid loss of files and other internet obstacles.

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