

Application of Information and Communication Technology in Managing Students Records in Polytechnics of Kebbi State

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Abstract:- This study conducted a research and investigated on the Application of ICT in managing Students record in Polytechnics of Kebbi State. In achieving this aim, designed questionnaire were administered to various respondents to find out What ICT facilities or tools are available in the two polytechnics? To what extent is ICT used in the management of information resources and students records in these polytechnics? What are the challenges faced in the application of information and communication technology in management students records by the polytechnics in the state? It was observed that the institutions involved in the study are using some ICT facilities in managing Students records. But these facilities are not sophisticated and the process of managing Students information is not automated. Computer system, database, web portal and internet are the only facilities used in managing these records. We also note that computer system, projector, smart boards, online learning software and school website are the only available ICT facilities within the two institutions. The number of scores recorded give us insight that these ICT facilities are not being used extensively and, form the bases behind much challenges involved, and the challenges noted are lack of sufficient training, inadequate power supply—to make the device workable, insufficient devices, lack of internet related services and maintenance of damaged facilities.

Keywords:- Dakin-gari, Waziri Umaru, ICT facilities, record management, information management, ICT Application

I. INTRODUCTION

Information is a vital commodity in any system be it primitive, developing or developed society. Information is the knowledge communicated or received concerning a particular facts or event concerning an event. Information is any fact or set of facts which are useful in making decisions among alternative courses of action. The information potential of data is enhanced by refinement, involving selection, processing, sorting and re-organizing the data into a usable form and transmission to the appropriate end-user.

Information centers served as systems that deals with the collection, evaluation and dissemination of information since the development of the organization depends largely on accurate and adequate utilization of in information [1].

Information and Communications Technology - or Technologies (ICT) is an umbrella term that includes any communication device or appliances, massing: radio, television, cellular phones, computers hardware/ software, satellite systems and so on, as well as the various services and information associated with them, such as videoconferencing and distance learning. ICTs are often spoken of in a particular context, such as ICTs in education, health care, or libraries. The theory behind this is more and better information and communication enhances the development of a society which sees ICT as a merger of communication, information and media technologies. In another context, creating, processing, storing, retrieval and distributing of information via computers and telecommunications equipment is called ICT [2]

ICT being a revolutionary tool in the 21st century of human endeavor, deploying it in educational domain will improve efficiency and operational excellence of academic and non-academic activities [3]. It can be categorized into five basic types according to [4] which include sensing technologies, communication technologies, display technologies, analysis technologies and storage technologies. Figure 1 below depicts the taxonomy.

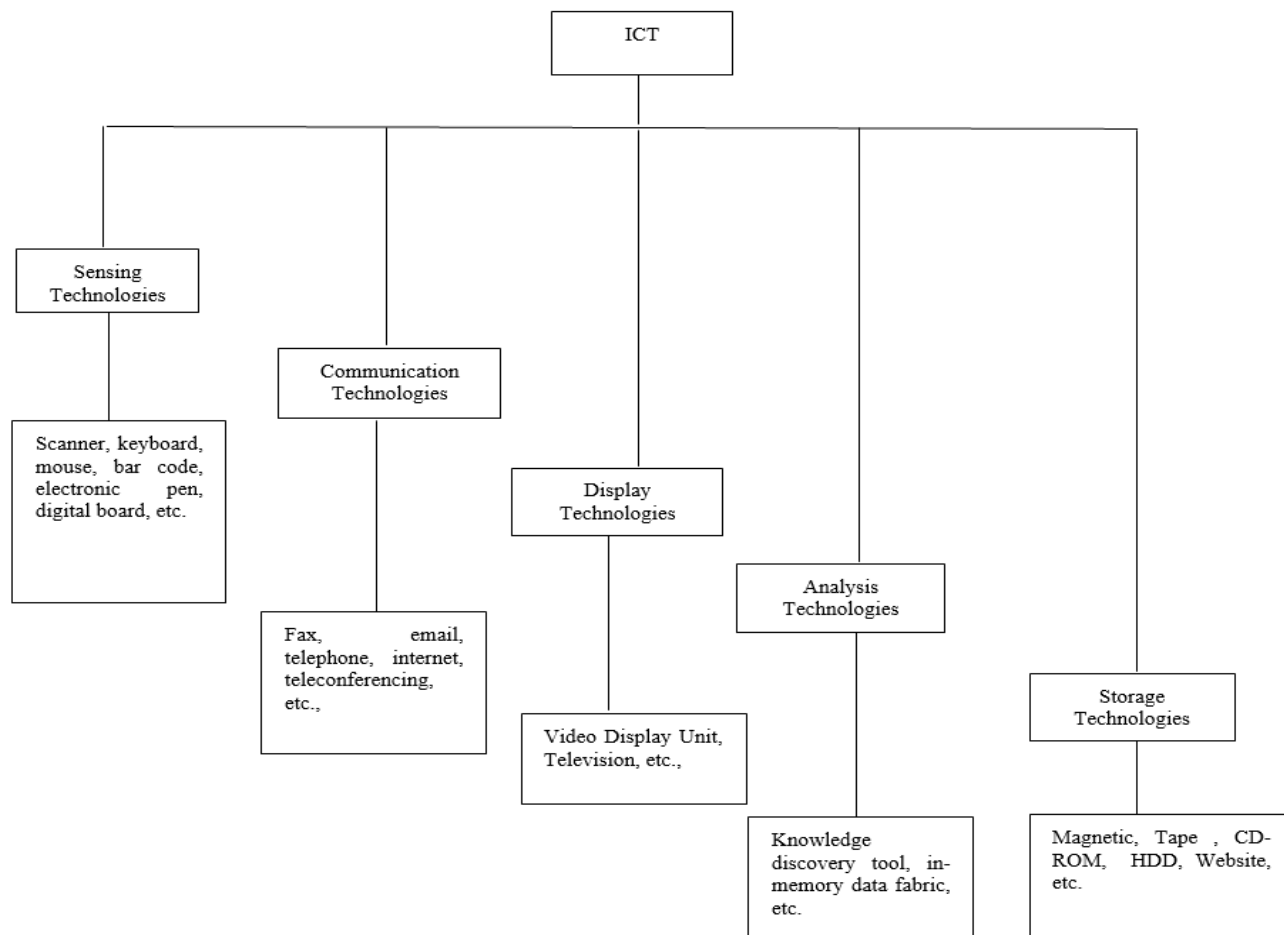


Fig 1:- ICT Taxonomy

II. CONTRIBUTIONS

Precisely, this research work will present the following contributions: 1. Presentation of the available ICT devices in the selected tertiary institutions of Kebbi State 2. Presentation of questionnaire and its responses 3. Presentation and analyses of survey results pertaining to application of ICT in these institutions 4. Presentation and evaluation of factors militating against the applications of ICT in the said institutions.

III. METHODOLOGY

The research methodology adopted in this work was quantitative survey, so as to make the sample of the study

more feasible, thereby making it possible for the collection and analysis of data on the application of ICT in managing student’s records in tertiary institutions of Kebbi State, Nigeria. This Survey method examines the opinions and attitude of population responses directly. In other words, it is often used to assess thoughts, opinions and feelings of respondents through the use of questionnaire. The choice of this method arose from the fact that the topic of this research examines the use of information and communication technology in the Management of Students records. One hundred and forty four Questionnaire was designed and administered to respondents of the institutions focusing on academic and non-academic staff as target respondents. Table 1 below depicts the population and its size.

S. No	Name of Institutions	Respondents	Total Number of Respondents
1.	Waziri Umaru Federal Polytechnic, Birnin Kebbi.	Staff	72
2.	Kebbi State Polytechnic, Dakin-gari	Staff	72
		Total	144

Table 1:- Population Size

IV. RESULTS AND DISCUSSION

This section contains sample of questions and responses that are directly related to main aim of the work. Analysis and

discussions would be provided based on the scores obtained from the respondents. However, percentage is considered as the baseline score. Tables would be constructed according to research question and their corresponding scores.

S. No	Name of Institutions	Yes (%)	No (%)	Not sure (%)
1.	Waziri Umaru Federal Polytechnic, Birnin Kebbi.	75	8	17
2.	Kebbi State Polytechnic, Dakin-gari	57	3	40

Table 2:- Do you consider ICT as important in your institution?

From table 2 above, one can simply understand how important an ICT is to the staff of these institutions.

S. No	Name of Institutions	Prevent loss of information	Makes learning process easier	No Idea
1.	Waziri Umaru Federal Polytechnic, Birnin Kebbi.	34	38	0
2.	Kebbi State Polytechnic, Dakin-gari	3	54	3

Table 3:- If the answer is yes, why do you think ICT is important?

Table 3 above, shows how significant ICT could be in the institution of learning. Though there are insignificant few who could not deduce its importance.

S. No	Name of Institutions	Yes (%)	No (%)	Not sure (%)
1.	Waziri Umaru Federal Polytechnic, Birnin Kebbi.	54	6	40
2.	Kebbi State Polytechnic, Dakin-gari	75	8	17

Table 4:- Does your institution have ICT facilities?

Table 4 shows the availability of ICT facilities in the two Institutions.

S. No	ICT Facility	Name of Institutions	
		Waziri Umaru Federal Polytechnic, Birnin Kebbi.	Kebbi State Polytechnic, Dakin-gari
1	Computer	18	27
2	Projector	25	31
3	Smart board	8	5
4	Online learning software	10	4
5	Institution website	2	5

Table 5:- If yes, select the ICT facilities available

Table 5 shows the individual ranking of ICT devices available in each institution. The ranking indicate how these facilities are common in the eyes of the staff. For both institutions, we can observe projector is most available then, computer system.

S. No	Name of Institutions	Yes (%)	No (%)
1.	Waziri Umaru Federal Polytechnic, Birnin Kebbi.	75	8
2.	Kebbi State Polytechnic, Dakin-gari	64	6

Table 6:- Are you familiar with some ICT facilities?

From table 6 above, one can attest that there are some ICT facilities that staffs are familiar with in these institutions.

S. No	Name of Institutions/ ICT Devices	Frequency
1.	Waziri Umaru Federal Polytechnic, Birnin Kebbi.	
	ICT Devices	
	Computer	25
	Projector	34
	Online learning software	13
2	Kebbi State Polytechnic, Dakin-gari	
	Computer	37
	Projector	43
	Smart board	6

Table 7:- Which among the ICT devices you are familiar with?

From the table above, it is evident that computer system and projector are most populous ICT device in these two institutions having the combined-largest percentage of 62 and 77 percent.

S. No	ICT Facility	Name of Institutions	
		Waziri Umaru Federal Polytechnic, Birnin Kebbi.	Kebbi State Polytechnic, Dakin-gari
1	Database	12	10
2	Computer	36	30
3	Internet	12	20
4	Website	0	10
5	No Idea	0	2

Table 8:- Which of these ICT facilities is used for managing student's record in your institution?

From the table above, it is evident that both the institutions relied on computer system (standalone) to manage student's record. The scores against database clearly support the belief of using standalone computer in this process.

S. No	Name of Institutions	Yes (%)	No (%)
1.	Waziri Umaru Federal Polytechnic, Birnin Kebbi.	57	3
2.	Kebbi State Polytechnic, Dakin-gari	41	41

Table 9:- Are you satisfy with the way your institution manage student's record?

The result from the table shows two differing results. Almost all the respondents of WUFPPB are okay with the records and man agent of student information. On the other hand, K/S Pol. Dakingari respondents are at crossroad on the way records are manage.

S. No	Name of Institutions	Yes (%)	No (%)
1.	Waziri Umaru Federal Polytechnic, Birnin Kebbi.	64	16
2.	Kebbi State Polytechnic, Dakin-gari	42	21

Table 10:- Do you face challenges using ICT facilities in managing student's record?

Table 10. Points to us that at least 64% of the ICT users of WUFPPB faces one or more problems in the conduct of record management. Whereas close to half of K/S Pol. Dakingari were equally affected with challenges amounted to 42%.

S. No	ICT Facility	Name of Institutions	
		Waziri Umaru Federal Polytechnic, Birnin Kebbi.	Kebbi State Polytechnic, Dakin-gari
1	Lack of technical know how	22	15
2	Inadequate ICT infrastructure	3	22
3	Inadequate power supply	6	22
4	Lack of internet service	9	19
5	Devices damages	3	4
6	No Idea	12	4

Table 11:- Which among the challenges do you face in record management process?

From this table we can observe three interesting facts from user's experience. Lack of training, availability of infrastructure and power supply are issues affecting users at K/S Pol. Dakingari. On the other hand, WUFPB is faced with three issues such as lack of training, power supply and internet services. These three key issues proved and supports our analysis in table 10.

From above response, one can deduce how important ICT facilities are to these two institutions. WUFPB with 83.33% while K/S Pol. Dakingari recorded 97% of ICT importance to management of student record. Results from table 7 provides clues on some type of ICT devices respondents are familiar with. Presenting computer system as most populous with 62% score followed by projector with combined-score of 77 percent. Though smart board and online learning software are also known by users but with low scores. Critical observation of table 5 validate table 7. This is because awareness or familiarity of device is possible and achievable if that device is physically available. Table 5 present to us the available devices in these schools which rank projector as the most available device. Computer system becomes second in the ranking. Online learning software and smart board make 3rd and 4th position of availability. As indicated also, the least available facility for both institutions is school website which the research agreed to have attributed this to be seasonal facility. Institutions and its staff use it frequently only during registration.

It is surprising to see computer system, the second available device is now leading in managing student's record. This is because projector is an output device that can never be used in maintaining or obtaining record while, computer is. From table 8, it is apparent that both the institutions relied on computer system (standalone) to manage student's record with a combine-score of 66%. While database is number 2 with 22%. We can strongly believe that these institutions use the two in the process.

In the process of handling ICT facilities users are faced with some difficulties. In this work, the respondents have their experience in the domain. K/S Pol. Dakingari with 42 % challenges, while WUFPB recorded 64% score. To validate the challenges faced, table 11 pinpoint areas of these issues that needed to be address for better efficiency and productivity. These issues are so serious to attend to immediately as figures suggest. For example, both the institutions users work under 34 and 21 percent competencies that could not produce desirable results.

V. RELATED WORK

Using ICT facilities to record student's personnel data such as admission data, and type of program--- sandwich, part – time programs, evening distance learning programs, indicate the need to use modern ICT facilities in handling many volume of information the institutions needs to handle. Ironically, many of the tertiary institutions in Nigeria, still use manual typewriters, to produce letters which the output cannot compare favorably with that of computer.

According to [5], Information and Communication Technology in student's records Management, aid in capturing, storing, retrieval, analysis and communication of information, whether in the form of data, text, or audio. Every aspect of life has been involved by the use of modern technology, particularly the computer. The processing of information in the information centers cannot be left if it must be relevant to the growth and development in the environment. Computer is an electronic machine which is capable of receiving input (data), storing the input, processing the input and processing of information under a stored instructions.

In the work of [2], a survey was made to ascertain the level of competencies in using ICT devices amongst the lecturers. From his findings, it was reported that gender variables does not play vital role in acquiring ICT skills among the teaching staff. He however, reported that ICT had significance influence on their job efficiency and effectiveness as they were up and running with modern technologies. In [3] it is reported that utilization of ICT infrastructures were found to be problems solver in discharging administrative duties and, also, enhancing decision making of the management and speedy & effective data management. Furthermore, the work pointed out how competent ICT could make a staff during discharging his/her schedules.

[6] Made their work on the awareness and application of ICT in two universities located in Edo State, Nigeria. Their contributions were presentation of few technologies such as photocopier as the most know and utilized. Moreover, they are at the opinion that scarcity of other ICT infrastructures indicated lack of efficiency and productivity in teaching and learning process in these two institutions. In another survey work conducted by [7] to ascertain ICT utilizations in students' learning process, it was observed that computer systems, email accounts, projector, public address system, printer and social media were among the facilities mostly available, whereas internet, computer training center, class projector were not accessible by students. Though, from their findings, females' students have higher utilization to ICT facility than males in Ondo State University, Nigeria.

Also [8] developed a school management information system in managing student's records and enhancing learning capability, the system has integrated the database modules of lesson documents, curriculum management, personnel, student affairs, finance, facilities, and infrastructure as well as specialized services in schools. In their research, they found that some vocational high schools in Makassar City, Indonesia has minimal in utilizing application programs in the teaching and learning process due to hardware limitations such as Liquid Crystal Display and projectors in classroom.

It is affirmed that the effective utilization of ICTs in teaching and learning enhances the effectiveness of the high schools.' [9] Investigate the effectiveness of Information and ICTs in teaching and learning in high schools in Eastern Cape Province, South Africa. Their result shows that most of the ICT facilities familiar to both students and teachers are

mobile device, computer, scanner and laptop. ICT facilities is significantly related to procedures for improving the application of ICT in the management of student personnel services such as accessing of results online, filling of students' personal data and for communication [10].

The procurement of enough ICT equipment such as computers for the staff will promote effective digitalized students' records management, and higher level of ICT adoption would enhance a higher level of digitalized students' records management effectiveness [11]. In another research conducted by [12] find out that the level of utilization of ICT for knowledge management activities such as the discovery, capture, storage, distribution, communication and application of knowledge in second cycle educational institutions in Ghana remains disappointingly low among both teachers and administrators.

Information and communication technology (ICT) infrastructure are to be considered in the effective management of students records. Research by [13] compare federal, state and private university ICT infrastructure and the study reveals that all the universities operate both manual and electronic methods of students records management.

VI. CONCLUSION

In this research work, we can observe that the institutions involved use some ICT facilities in managing student's records. But these facilities are not sophisticated and the process is not automated. Computer system, database, web portal and internet are the only facilities used in managing student's record. We also note that computer system, projector, smart boards, online learning software and school website are the only available ICT facilities within the two institutions. The number of scores recorded in table 11 give us insight that these ICT facilities are not being used extensively, reason behind two much challenges. The challenges noted are: lack of sufficient training, inadequate power supply—to make the device workable, insufficient devices, lack of internet related services and maintenance of damaged facilities.

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