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A SURVEY OF ICT USE BY REGISTRY STAFF IDENTIFIES PERSONAL AND ORGANISATIONAL BARRIERS

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Abstract

The study investigated issues relating to the availability, accessibility, extent of use, and major factors inhibiting the use of ICT tools among the registry staff of the University of Ibadan, Oyo State. Survey design was adopted. The population comprised 520 members of staff across the various sections of the Registry, out of which 260 (50%) respondents were sampled. A structured questionnaire and an interview schedule were used for data collection. Quantitative data were subjected to frequency distribution, while interview responses were transcribed and thematically analysed. Findings showed that a good number of basic ICT tools such as desktop computers, printers, e-mail services, word processors, spreadsheets and presentation software are available to the registry staff for official work in the University, although some of them require upgrade. The available ICT tools are easily accessible to the registry staff for official work, and a high use of the ICT tools was revealed. The major challenges facing the registry staff in their use of ICT tools include inadequacy of ICT tools and consumables, obsolescence of ICT tools, lack of regular maintenance of ICT tools, unreliable internet access, unstable power supply, lack of technical assistance with ICT use, inadequate training, among others. Based on the findings, recommendations are made.

Keywords: ICT Availability, Accessibility, ICT Use, Registry Staff, University of Ibadan

Introduction

Organisations today can only run effectively with good quality information, and this is more so for a university where the totality of its enterprise revolves round information utilisation and dissemination (Ogunraku, 2018). The tremendous growth in higher education has made its administration a complex task (Krishnaveni and Meenakumari, 2010). Technologically, the whole world has collapsed into one big village. This scenario describes the environment in which universities, and by extension, their registry staff, are bound to operate. It has become imperative for registry staff to move from merely administering the status quo to managing the complex structures and systems that the institution has become. Registry staff must be able to function within the context of the

modern environment to deliver fast and friendly services to staff, students and other stakeholders, and engage the public with clinical efficiency (Olayinka, 2018).

Registry staff keep the day-to-day administration of a university constantly on the move by way of providing facilitating services towards the effectuation of its core objectives. The registry is the arm that serves various organs and keeps records of an institution. It is an essential department that serves as the hub around which administrative processes run. Historically, it started from the idea of having officers to assist the academics in dealing with such duties that appear extraneous to their core roles of knowledge generation, impartation and application. Such duties performed by registry staff include management of students' records and welfare, management of staff matters, administration of council affairs, corporate services and academic matters. Information and Communication Technology (ICT) has been found to be assistive in reducing cost and lessening administrative burden faced by members of staff and students, and in injecting efficiency in registry services (Ogunraku, 2018).

Alam (2016), as cited in Bosu (2019), also indicated that ICT plays a major role in the efficient utilisation of resources and simplifies the administrative tasks in higher education by reducing paper work and replacing manual record-keeping with electronic database management. Studies reveal that the integration of ICT assists in easing the complexity and in enhancing the overall administration of higher education (Pohekar, 2018). Qureshi and Abro (2016) observed that ICT has become part of the most effective tools not only in the teaching and learning process but also in the administrative processes, enabling several possibilities for educational administrators. ICT is rapidly changing global production, work processes and business methods. Egoeze, Misra, Maskeliūnas and Damaševičius (2018) observed that ICT has revolutionised the way several administrative processes are carried out and information is handled, making it less cumbersome.

Zuppo (2012) viewed ICT as being synonymous with productivity and enabled communication within a global context. ICT tools include communication devices and applications, encompassing radio, television, cellular phones, personal computers, laptops, tablets, mobile phones, network technologies, satellite systems, etc., as well as the various services and applications associated with them, such as videoconferencing and distance learning. Mavellas, Wellington and Samuel (2016) submitted that a number of definitions of ICT centre around the hardware and applications used for gathering, processing, storage and dissemination of information. Adedokun-Shittu and Shittu (2015) defined ICT as all forms of evolving technologies that help in facilitating information collection, processing, usage, transfer, storage, retrieval, sharing, interpretation and adoption. These technologies include mobile devices, computers, tablets, podcast, Internet, scanners, printers, LCDs, ubiquitous computing, WWW, and a host of yet to be developed technologies. Dogra and Kale (2020) described ICT as encompassing all devices, networking components, applications and systems that, when combined, allow people and organisations to interact in the digital world. Ratheeswari (2018) noted that ICT provides access to information through telecommunication, and include the internet, wireless networks, cell phones and other communication mediums. Christiana (2008), as cited in Qureshi and Abro (2016), noted that in the age of booming technology, running a business without or with less technologies is like trying to breathe without lungs.

However, Egoeze, Misra, Maskeliūnas and Damaševičius (2018) reported that Nigerian higher education institutions are yet to satisfactorily enjoy the benefits of ICT, especially

with the paucity of necessary facilities observed in most of the institutions. Furthermore, work processes in the registry of the University of Ibadan have been a subject of repeated criticisms. One of such criticisms is that the work processes are not fully enabled by ICT, and that the staff are lagging behind in the digital environment of today (Osofisan, personal communication, May 16, 2018). Addressing this observed ICT under-utilisation is the primary concern of this study.

The objective of the study is to provide evidence-based information about the level of the availability, accessibility and use of ICT facilities, as well as to identify the major factors inhibiting the use of ICT tools by the registry staff of the University. In line with the objective, the following four research questions were raised:

- a) How available for official work are ICT tools to Registry staff of the University of Ibadan?
- b) How accessible are ICT tools to Registry staff of the University of Ibadan?
- c) What is the extent of ICT use by Registry staff of the University of Ibadan?
- d) What are the challenges of ICT use by Registry staff of the University of Ibadan?

The remainder of this paper is structured as follows: the next section presents the review of related literature; this is closely followed by the details of the methodology, results and discussions of the findings. The conclusion, recommendations and suggestions for further studies finalised the paper.

Literature Review

In this section, a review of related literature is presented.

ICT in Higher Education Administration

According to Egoze, Misra, Maskeliūnas and Damaševičius (2018), application of ICT in higher education administration has revolutionised administrative services, which are categorised into student administration, staff administration and general administration. Student administration involves management of students' records, and is evidently the dominant area in which ICT is deployed. Other activities under student administration are online application and admission processing, online registration, fee payment, examination procedure, online academic transcript, programme detail and time-table, online information about students and hostel accommodation allocation. With respect to staff administration, ICT is utilised in managing information about staff, processing of leave applications, etc. General administrative services supported by ICT include dissemination of information about the institution, handling of day-to-day accounts and of clerical duties.

Yusuf and Oso (2014) stated in their study that the present development of ICT indicates that traditional systems are being gradually substituted by automation in the universities in Nigeria. They concluded that there is an urgent need to investigate the correlation between the personnel performance and the availability as well as accessibility of information and communication technology in the universities in Nigeria. While Qureshi and Abro (2016)

reported that developed countries are taking full advantage of ICT in higher education administration, they concurred with Yusuf and Oso (2014) that developing countries like Nigeria have also started adopting the technology. They however added that despite the ICT innovation in university administration, the administrative processes still confront a number of challenges indicating possible ineffective usage of ICT.

A study by Krishnaveni and Meenakumari (2010) identified various functional areas to which ICT is deployed for information administration in higher education institutions, as well as the various factors that contribute to these functional areas. According to them, ICT is mainly used in the areas of student administration and staff administration, with the extent of usage for general administrative activities comparatively less.

Akintunde (2014) discovered that ICT tools needed by administrative staff to manage students' records in the Postgraduate School (now the Postgraduate College) of the University of Ibadan are available and effectively used, except for such challenges as erratic power supply, lack of training in ICT use, lack of competency and old age of ICT tools. The study, however, was limited in scope to only one aspect of the registry-based processes (that is, students' record management) and to one of the several divisions of the Registry of the University. Ogunode, Babayo, Jegede and Abubakar (2021) reported that some of the challenges preventing the non-academic staff from using ICT effectively in carrying out their functions in the universities include inadequate ICT facilities, the poor ICT literacy level of non-academic staff, unstable power supply, unstable internet service, institutional corruption, high cost of ICT facilities, and poor maintenance culture.

Bosu (2019), in a study on the role and use of ICT in administrative activities in higher education institutions, found out that administrators use ICT for their activities in three main areas: the use for electronic database management, the use for office automation, and the use for preparation and presentation of reports. On the impact of ICT utilisation, the study revealed that ICT enhances efficiency and the quality of work. The study further revealed that different ICT tools are available to administrators, including personal computers with Internet connectivity and other accessories such as printers, scanners, projectors and (mobile) telephones. These facilities were found accessible as they were located within their offices.

In their investigation of the impact of ICT on the administrative services and management of students' records in Nigerian universities, Egoeze, Misra, Maskeliūnas and Damaševičius (2018) discovered that ICT has not made much impact in Nigerian universities on many key administrative services in regard to management of students' records, processing of examination results and transcripts, staff information administration etc.

Ahmed (2009), as cited in Egoeze, Misra, Maskeliūnas and Damaševičius (2018), in a study on the use of ICT in private universities in Bangladesh discovered that ICT was used for managing the administrative processes by almost all the private universities. According to the study, ICT tools were used in student enrolments, student record keeping, accounts, general administration, and library maintenance. It was mentioned that users of ICT for administrative purposes indicated that it was convenient, efficient and reliable.

Method

This study adopted a descriptive survey design owing to its flexibility and appropriateness for carrying out a study of this kind. The study location was University of Ibadan, Ibadan,

Oyo State, situated in the south-western part of Nigeria. The population covered all 520 members of staff (comprising Administrative Officers: 74, Executive Officers: 294, Secretaries: 78, and Computer Operators: 74) across the various Sections of the Registry. Using stratified random sampling, a sample of 260 respondents (representing 50% of the population) from the 4 cadres comprises 37 Administrative Officers, 147 Executive Officers, 39 Secretaries and 37 Computer Operators was selected. Data was collected with a structured questionnaire and interview schedule between the months of March 2020 and July 2021.

The questionnaire was subdivided into 5 sections: Section A collected demographic data. Section B collected data on availability of ICT to registry staff, Section C on accessibility to ICT tools to registry staff, Section D on extent of ICT use by registry staff, and Section E on challenges of ICT use by registry staff. In addition to administering a questionnaire, interview was conducted to collect data on a one-on-one basis, some through face-to-face and others through the telephone, from 12 respondents. The 12 respondents comprised 3 Administrative Officers, 3 Executive Officers, 3 Secretaries and 3 Computer Operators. A structured interview schedule was used mainly but off-the-cuff and follow-up questions were also used to obtain additional information and for clarity purposes. A recorder was used with permission from the respondents, in order to capture the responses more effectively and accurately. The instruments were validated by four experts in the field of Information Science.

Out of the 260 copies of the questionnaire distributed, only 218 that were properly completed were retrieved and found usable for analysis giving 83.8% response rate. Quantitative data were analysed using frequency distribution to answer the four research questions. Qualitative data from interview was thematically analysed using NVIVO. In all, two hundred and eighteen respondents were involved in the study out of which 103 (47.2%) of the respondents were males, while 113 (51.9%) were females. Also, 8 (3.7%) of them were between the ages of 20 – 30years, 51 (23.4%) were between 31 – 40years, 90 (41.3%) were between 41 – 50years, 55 (25.2%) were between 51 – 60 years, while 4 (1.8%) were above 60 years.

Results

In this section, the results are presented followed by a discussion of the findings.

Research question 1: How available for official work are ICT tools to Registry staff of the University of Ibadan?

The different responses of respondents as regards the availability of ICT tools for official work are presented in Table 1.

Table 1: Responses on Availability of ICT tools to Registry Staff

ICT TOOLS	Not Available (%)	Available but Not Working (%)	Available and Working (%)	Mean	Std. Dev.
Desktop computers	23 (10.7%)	50 (23.3%)	142 (66%)	2.55	.681
Laptops	77 (35.3%)	29 (13.3%)	112 (51%)	2.16	.919
Tablets	166 (78.3%)	17 (8%)	29 (13.7%)	1.35	.710
Printers	25 (11.5%)	44 (20.2%)	149 (68.3%)	2.57	.691
Scanners	95 (44%)	33 (15.3%)	88 (40.7%)	1.97	.922
Digital cameras	165 (77.5%)	24 (11.3%)	24 (11.3%)	1.34	.672
Public address system	90 (42.1%)	33 (15.4%)	91 (42.5%)	2.00	.922
Flash drives	64 (29.9%)	21 (9.8%)	129 (60.3%)	2.30	.902
External hard drives	99 (45.5%)	27 (12.7%)	87 (40.8%)	1.94	.935
CD-RW	78 (38.3%)	27 (12.6%)	110 (51.2%)	2.15	.925
SD cards	126 (59.2%)	30 (14.1%)	57 (26.8%)	1.68	.871
Multimedia projectors	90 (42.5%)	31 (14.6%)	91 (42.9%)	2.00	.926
Internet	54 (25.7%)	57 (27.1%)	99 (47.1%)	2.21	.828
e-mail services	59 (28.1%)	40 (19%)	111 (52.9%)	2.25	.867
Telephone	93 (43.5%)	27 (12.8%)	94 (43.9%)	2.00	.937
SMS	68 (32.4%)	24 (11.4%)	118 (56.2%)	2.24	.913
Social media (e.g. WhatsApp)	85 (41.3%)	28 (12.8%)	93 (45.1%)	2.04	.931
Video conferencing (e.g. Zoom)	109 (52.4%)	20 (9.6%)	79 (38%)	1.86	.942
Television	90 (42.9%)	43 (20.5%)	77 (36.7%)	1.94	.892
Radio	127 (60.5%)	23 (11%)	60 (28.6%)	1.68	.890
Midgets/recorders	152 (73.4%)	24 (11.6%)	31 (15%)	1.42	.738
Word processor (e.g. Microsoft Word)	35 (16.4%)	20 (9.3%)	159 (74%)	2.58	.757
Spreadsheet (e.g. Microsoft Excel)	38 (18.1%)	18 (8.6%)	154 (73.3%)	2.55	.782
Presentation software (e.g. PowerPoint)	61 (29.2%)	20 (9.6%)	128 (61.2%)	2.32	.897
Database management software	81 (38.8%)	26 (12.4%)	102 (48.8%)	2.10	.933
Cloud drive apps (e.g. Google docs)	120 (57.7%)	25 (12%)	63 (30%)	1.73	.899
SPSS	129 (63.2%)	27 (13.2%)	48 (23.5%)	1.60	.845

Table 1 shows the responses as regards the availability of ICT tools for official work to Registry staff of the University of Ibadan. It shows that majority of the respondents 142 (66%) affirmed that desktop computers are available and working in the institution, 50 (23.3%) claimed they are available but not working, while only 23 (10.7%) said they are not available. Also, 112 (51%) respondents agreed that laptops are available and working in the institution, 29 (13.3%) claimed they are available but not working, while 77 (35.3%) said they are not available.

Moreover, as many as 149 (68.3%), 129 (60.3%) and 110 (51.2%) respondents agreed that printers, flash drives and CD-RW are available and working in the institution, while 25 (11.5%), 64 (29.9%) and 78 (38.3%) respectively said they are not available. Likewise, 111 (52.9%), 159 (74%), 154 (73.3) and 128 (61.2%) respondents claimed that e-mail services, word processor, spreadsheet and presentation software are available and working in the institution, while 59 (28.1%), 35 (16.4%), 38 (18.1%) and 61 (29.2%) disagreed respectively.

However, the table also reveals that 166 (78.3%) of the respondents disagreed that tablets are available and working in the institution, while only 29 (13.7%) agreed. Still on the availability of ICT tools, as many as 126 (59.2%), 109 (52.4%), and 120 (57.7%) respondents disagreed that SD cards, video conferencing, and cloud drive apps are available and working in the institution, while only 57 (26.8%), 79 (38%) and 63 (30%) agreed respectively.

The result shows to a considerable extent that a good number of ICT tools are available to registry staff for official work in the University of Ibadan. This is evident as many ICT tools such as desktop computers, laptops, e-mail services, printers, flash drive, word processor, database management software, etc. are said to be available and working. Although, some ICT tools such as tablets, SD cards, external hard drive, video conferencing, cloud drive apps (e.g. Google docs) and radio are said not to be available, it is important to note that many of these ‘not available’ tools appear to be substitutes to the already available tools.

Using the NVIVO query analysis (word frequency table) to probe the major themes under the available and working ICT tools, Table 2 reveals the available and working ICT tools to include desktop computers (with 8 counts), printer (with 7 counts), scanners (with 6 counts), internet connection (with 4 counts), among others.

Table 2: Word Frequency Count on Available and Working ICT Tools

Word	Count	Weighted Percentage (%)	Similar Words
Desktop	8	11.11	desktop, desktops
Printers	7	9.72	printer, printers
Scanner	6	8.33	scanner, scanners
Internet	4	5.56	Internet
connection	3	4.17	connection
Laptop	3	4.17	laptop, laptops
Excel	2	2.78	Excel
Faculty	2	2.78	faculty, staff
Public	2	2.78	Public
System	2	2.78	System
Yes	2	2.78	Yes
access	1	1.39	Access

Knowing that the Nvivo word cloud analysis presents words in the proportion of word frequency count as used by respondents, this shows that the above listed tools are the most available ICT tools among Registry staff of the University of Ibadan. Excerpts from the interview transcript that support this result are presented below:

“The Faculty has wireless Internet connection, a Public Address System and projectors which are working. I have common Microsoft Office such as Word, Excel, Access and PowerPoint, and some other software unknown to me may be available on my desktop computer, since I’m a beginner.”
(Male/48 years/Executive Officer)

*“Some are available, such as a desktop and printer”
(Female/57 years/Computer Operator)*

*“We have a laptop, desktop, scanner, project and printers.”
(Female/51 years/Computer Operator)*

Also, focusing on the available but not working tools, the word frequency count in Table 3 reveals the major themes under this sub-node. Bearing in mind that data for this study is collected from different departments/units within the university, it would be understandable that some aforementioned available and working tools might still appear here, as some tools working in one department may need a repairer’s attention in another department.

Table 3: Word Frequency Count on Available but not Working ICT Tools

Word	Count	Weighted Percentage (%)	Similar Words
Scanner	3	30.00	scanner
Internet	2	20.00	internet
connection	1	10.00	connection
Laptops	1	10.00	laptops
Midget	1	10.00	midget

Table 3 reveals the available but not working ICT tools to include scanner (with 3 counts), internet (with 2 counts), and laptops and midget (with 1 count each). This stresses that there are some sections/units in the university where these listed tools are available but not working.

Excerpts from the interview transcript in support of the result are presented below:

“The scanner has not functioned for a while. Also, we have a midget that is not functioning.” (Male/37 years/Executive Officer)

“...the scanner is not working.” (Female/61 years/Secretary)

Finally, under the not available node, Table 4 shows the most mentioned tools said not to be available.

Table 4: Word Frequency Count on Not Available ICT Tools

Word	Count	Weighted Percentage (%)	Similar Words
drive	3	13.04	Drive
laptop	3	13.04	Laptop
scanner	3	13.04	scanner
flash	2	8.70	Flash
midget	2	8.70	Midget
radio	2	8.70	Radio
record	2	8.70	record, recorder

camera	1	4.35	camera
digital	1	4.35	Digital
external	1	4.35	external
tablet	1	4.35	Tablet
Television	1	4.35	television

Table 4 reveals some ICT tools believed not to be available. These include flash drive and external hard drive (with 3 counts), scanner (with 3 counts), laptop (with 3 counts), midget (with 2 counts), radio (with 2 counts) among others. But as observed earlier, it is important to note that some of these tools have substitute(s) that were declared to be available except scanner, midget, radio and television.

Excerpts from the interview transcript that support that these tools are not available are presented below:

“We don’t have a scanner and recorder/midget. I feel that I need a recorder because it will help us in our duties of covering meetings.” (Male/48 years/Executive Officer)

“No laptop, no tablet, no flash drive.” (Female/57 years/Computer Operator)

“No radio, no television, no digital camera, no flash drive, no external drive.” (Female/49 years/Administrative Officer)

It is thus evident that a good number of basic ICT tools like desktop computer, printer internet, etc. are available to Registry staff for official work in the University of Ibadan, although some of these tools require upgrade and/or deployment to some departments that are short of them to improve their performance.

Research question 2: How accessible are the ICT tools to Registry staff of the University of Ibadan?

The different responses as regards the accessibility of ICT tools to Registry staff for official work are presented in Table 5.

Table 5: Accessibility of ICT Tools to Registry Staff

ICT TOOLS	Not Accessible (%)	Occasionally Accessible (%)	Easily Accessible (%)	Mean	Std. Dev.
Desktop computers	27 (12.6%)	57 (26.6%)	130 (60.7%)	2.48	.710
Laptops	56 (25.9%)	79 (36.2%)	81 (37.5%)	2.12	.790
Tablets	155 (72.4%)	32 (15%)	27 (12.6%)	1.40	.704
Printers	25 (11.7%)	69 (32.4%)	119 (55.9%)	2.44	.695
Scanners	77 (35.8%)	76 (35.3%)	62 (28.8%)	1.93	.803
Digital cameras	147 (69.7%)	38 (18%)	26 (12.3%)	1.43	.702
Public address system	94 (43.7%)	56 (26%)	65 (30.2%)	1.87	.851
Flash drives	55 (25.7%)	63 (29.4%)	96 (44.9%)	2.19	.820
External hard drives	82 (38.9%)	63 (29.9%)	66 (31.3%)	1.92	.836
CD-RW	66 (31.4%)	52 (24.8%)	92 (43.8%)	2.12	.861
SD cards	110 (53.4%)	54 (26.2%)	42 (20.4%)	1.67	.795
Multimedia projectors	76 (36%)	71 (33.6%)	64 (30.3%)	1.94	.815
Internet	57 (26.9%)	77 (36.3%)	78 (36.%)	2.10	.794
e-mail services	65(30.5%)	52 (24.4%)	96 (45.1%)	2.15	.859
Telephone	66 (30.8%)	53 (24.8%)	95 (44.4%)	2.14	.859
SMS	68 (32.4%)	46 (21.9%)	96 (45.7%)	2.13	.876
Social media	74 (35.6%)	57 (26.1%)	77 (37%)	2.01	.854
Video conferencing	100 (47.8%)	64 (30.6%)	45 (21.5%)	1.74	.792
Television	91 (42.9%)	67 (31.6%)	54 (25.5%)	1.83	.810
Radio	106 (50%)	49 (23.1%)	57 (26.9%)	1.77	.848
Midget recorders	140 (67.3%)	39 (18.8%)	29 (13.9%)	1.47	.728
Word processor	40 (18.6%)	45 (20.9%)	130 (60.5%)	2.42	.786
Spreadsheet (e.g. Microsoft Excel)	41 (19.4%)	45 (21.3%)	125 (59.2%)	2.40	.795
Presentation software (e.g. PowerPoint)	54 (25.7%)	51 (24.3%)	105 (50%)	2.24	.838
Database management software	73 (34.8%)	61 (29%)	76 (36.2%)	2.01	.844
Cloud drive apps (e.g. Google docs)	107 (50.7%)	60 (28.4%)	44 (20.9%)	1.70	.793
SPSS	122 (59.2%)	46 (22.3%)	38 (18.4%)	1.59	.783

Table 5 shows the responses as regards how accessible are ICT tools to the Registry staff. The table reveals that 130 (60.7%) claimed that desktop computers are easily accessible in the institution, 57 (26.6%) said they are occasionally accessible, while only 27 (12.6%) said they are not accessible. Also, majority of the respondents 81 (37.5%) agreed that laptops are easily accessible in the institution, 79 (36.2%) claimed they are occasionally accessible, while 56 (25.9%) said they are not accessible.

Moreover, 119 (55.9%), 96 (44.9%), and 92 (43.8%) of the respondents agreed that printers, flash drives, and CD-RW are easily accessible in the institution, while 25 (11.7%), 55 (25.7%), and 66 (31.4%) respectively said they are not accessible. Furthermore, 96 (45.1%), 130 (60.5%), and 105 (50%) respondents claimed that e-mail services, word

processor, and presentation software are easily accessible in the institution, while 65 (30.5%), 40 (18.6%), and 54 (25.7%) disagreed respectively.

However, the table reveals that 155 (72.4%) of the respondents disagreed that tablets are easily accessible in the institution, while only 27 (12.6%) agreed. Likewise, as many as 110 (53.4%), 100 (47.8%), and 107 (50.7%) respondents disagreed that SD cards, video conferencing, and cloud drive apps are available and working in the institution, while only 42 (20.4%), 45 (21.5%), and 44 (20.9%) agreed respectively.

Based on this result, it can be said that a good number of ICT tools are easily accessible to Registry staff for office work in the University of Ibadan. As seen in the result, many ICT tools such as desktop computers, laptops, e-mail services, printers, flash drive, word processor, presentation software, database management software etc. are said to be easily accessible. Although, some ICT tools such as tablets, SD cards, external hard drive, video conferencing, cloud drive apps (e.g. Google docs) and radio are said not to be easily accessible, it is important to note that many of these 'not accessible' tools are substitutes to the existing easily accessible tools.

Furthermore, to strengthen this finding, the interview responses as regards this research question were also subjected to Nvivo analysis. From the question "How accessible are ICT tools to Registry staff?" the major themes identified are; "easily accessible", "freely accessible", and "very accessible". This is illustrated in Figure 1.



Figure 1: Word Cloud on Accessibility of ICT Tools to Registry Staff of the University of Ibadan

As presented in Figure 1, many of the ICT tools are said to be accessible. Many stressed that the available ICT tools are accessible. Excerpts from the interview transcript that back this are presented below:

*“The ICT tools available are generally easily accessible.”
(Female/57 years/Computer Operator)*

*“The ones available, I can use them anytime.” (Male/49
years/Executive Officer)*

*“The ICT tools are freely accessible to me any time.”
(Female/61 years/Secretary)*

*“The ICT tools are in my office. They are so accessible.”
(Female/50 years/Secretary)*

However, one of the respondents with a little different view believed that they are occasionally available.

The scanner, printers and desktops and a few other available ICT tools are occasionally available. (Male/56 years/Administrative Officer)

This result thus shows that the ICT tools available to Registry staff in the University of Ibadan for office work are easily accessible.

Research question 3: What is the extent of ICT use by Registry staff of the University of Ibadan?

The different responses as regards the extent of ICT use by Registry staff for official work are presented in Table 6.

Table 6: Extent of ICT Use by the Registry Staff

Items	Not at All (%)	Low Extent (%)	High Extent (%)	Mean	Std. Dev.
I use a desktop computer to handle official work.	36 (16.7%)	67 (31.2%)	112 (52.1%)	2.35	.752
I use a laptop to handle official work.	46 (21.5%)	57 (26.6%)	111 (51.9%)	2.30	.803
I use a tablet to handle official work.	147 (70%)	33 (15.7%)	30 (14.3%)	1.44	.731
I use a printer to handle official work.	33 (15.4%)	46 (21.5%)	135 (63.1%)	2.48	.749
I use a scanner to handle official work.	81 (37.5%)	63 (29.2%)	72 (33.3%)	1.96	.843
I use a digital camera to handle official work.	155 (73.5%)	39 (18.5%)	17 (8.1%)	1.35	.624
I use a public address system for official engagements.	111 (52.1%)	52 (24.4%)	50 (23.5%)	1.17	.823
I use a flash drive to store official records.	53 (24.8%)	57 (26.6%)	104 (48.6%)	2.24	.825
I use an external hard drive to store official records.	89 (41.4%)	56 (26%)	70 (32.6%)	1.91	.857
I use a CD-RW to store official records.	74 (34.6%)	55 (25.7%)	85 (39.7%)	2.05	.862
I use an SD card to store official records.	115 (54.5%)	62 (28.4%)	34 (15.6%)	1.62	.749
I use a multimedia projector to make presentations.	105 (49.3%)	59 (27.7%)	49 (23%)	1.74	.811
I use the Internet to handle official work.	67 (31%)	50 (23.1%)	99 (45.8%)	2.15	.866
I use e-mail services for official communication.	69 (32.2%)	49 (22.9%)	96 (44.9%)	2.13	.871
I use a telephone for official communication.	65 (30.5%)	40 (18.3%)	108 (50.7%)	2.20	.880
I use SMS for official communication.	50 (23.4%)	42 (19.6%)	122 (57%)	2.34	.833
I use social media for official communication.	84 (39.6%)	50 (23.6%)	78 (36.8%)	1.97	.876
I use video conferencing for official engagements.	122 (57.5%)	45 (21.2%)	45 (21.2%)	1.64	.812
I use television to gather relevant information.	114 (53%)	57 (26.5%)	44 (20.5%)	1.67	.795
I use radio to gather relevant information.	117 (54.4%)	56 (26%)	42 (19.5%)	1.65	.788
I use midget recorders at official engagements	143 (67.8%)	32 (15.2%)	36 (17.1%)	1.49	.771
I use word processors to handle official work.	35 (16.2%)	41 (19%)	140 (64.8%)	2.49	.759
I use spreadsheets to handle official work.	48 (22.6%)	52 (24.5%)	112 (52.8%)	2.30	.817
I use presentation software to handle presentations.	67 (31.9%)	57 (27.1%)	86 (41%)	2.09	.851
I use database management software for official work.	86 (40.6%)	55 (25.9%)	71 (33.5%)	1.93	.860
I use cloud drive apps to handle official work.	123 (58%)	54 (25.5%)	35 (16.5%)	1.58	.759
I use SPSS to analyse official data.	147 (70%)	34 (16.3%)	28 (13.4%)	1.43	.718
Other (please specify)	(%)	(%)	(%)		

Table 6 shows the responses as regards the extent of ICT use by the Registry staff. The table reveals that majority of the respondents, 112 (52.1%), 111 (51.9%) and 135 (63.1%) affirmed that they use desktop computers, laptops and printers to a high extent in the institution, while only 36 (16.7%), 46 (21.5%), and 33 (15.4%) disagreed respectively.

Furthermore, 104 (48.6%), 108 (50.7%), and 85 (39.7%) of the respondents agreed that flash drives, telephone, and CD-RW are used by them to a very high extent in the institution, while 53 (24.8%), 65 (30.5%), and 74 (34.6%) respectively said they are not used at all by them. Moreover, 96 (44.9%), 140 (64.8%), and 86 (41%) respondents claimed that e-mail services, word processor, and presentation software are highly used by them in the institution, while 69 (32.2%), 35 (16.2%), and 67 (31.9%) disagreed respectively.

The table further reveals that 147 (70%) of the respondents disagreed that tablets are used in the institution, 33 (15.7%) claimed they used to a low extent, while only 30 (14.3%) said they are used to a high extent. Likewise, as many as 115 (54.5%), 122 (57.5%), and 123 (58%) respondents disagreed that SD cards, video conferencing, and cloud drive apps are used in the institution, while only 34 (15.6%), 45 (21.2%), and 35 (16.5%) respectively agreed that they are highly used.

Based on this result, it can be said that many ICT tools are highly used by registry staff for office work in the University of Ibadan. As seen in the result, many ICT tools such as desktop computers, laptops, e-mail services, printers, flash drive, word processor, presentation software, telephone etc. are said to be highly used. Although, some ICT tools such as tablets, SD cards, external hard drive, video conferencing, cloud drive apps (e.g. Google docs) and radio are said not to be used at all, it is important to note that many of these ‘not at all’ tools are substitutes to the existing highly used ones.

More still, the interview responses as regards this research question were subjected to Nvivo analysis. From the question “What is the extent of ICT use among Registry staff of the University of Ibadan?” the various responses were categorised into three nodes; *highly use*, *mildly/low use*, and *not used*. Figure 2 shows the node and sub-nodes.

What is the extent of ICT use among Registry staff of the University of Ibadan	12	12
Highly used	11	11
Mildly used	1	1
Not used	0	0

Figure 2 Screenshot of Interface Showing Respondents’ Responses on the Extent of ICT Use by Registry staff of the University of Ibadan

As seen in Figure 2, majority of the response categories fall under the sub-node *highly used* (with 11 counts). This shows that ICT tools available to Registry staff for official work in the University of Ibadan are highly used. This corroborates the findings presented in the quantitative analysis.

Below are excerpts from the interview transcript that support this;

*“I normally use ICT tools for all my work, it helps a lot. ICT is the-main-the-main (the main tool for my work).”
(Female/57 years/Computer Operator)*

“All the work in its entirety has been eased by ICT, and every bit of it is done through ICT on a daily basis. I use ICT a lot.” (Male/37 years/Executive Officer)

*“I use ICT to a good extent to do so much. I have no phobia for it. I can sleep on ICT tools.”
(Female/48years/Administrative Officer)*

*“I use ICT tool all the time. It is the tool for my job.”
(Female/50 years/Secretary)*

“I use ICT a lot because of the nature of our work. We transfer documents between different tools.” (Male/56 years/Administrative Officer)

Research question 4. What are the challenges of ICT use by Registry staff of the University of Ibadan?

The different responses of respondents as regards the challenges associating with the use of ICT for official work are presented in Table 7.

Table 7: Challenges of ICT Use by Registry Staff

Items	Strongly Disagree (%)	Moderately Disagree (%)	Moderately Agree (%)	Strongly Agree (%)	Mean	Std. Dev.
Inadequate ICT tools	32 (14.8%)	26 (12%)	69 (31.9%)	89 (41.2%)	3.00	1.063
Obsolete ICT tools	36 (16.7%)	28 (13%)	65 (29.8%)	86 (40%)	2.93	1.096
Inadequacy of ICT consumables	25 (11.6%)	30 (14%)	73 (34%)	87 (40.5%)	3.03	1.006
Lack of regular maintenance of ICT tools	25 (11.6%)	28 (13%)	80 (37%)	83 (38.4%)	3.02	.990
Lack of constant update of anti-virus software	21 (9.7%)	34 (15.7%)	61 (28.2%)	100 (46.3%)	3.11	1.001
Unreliable Internet access	28 (13.1%)	24 (11.3%)	65 (30.5%)	96 (45.1%)	3.08	1.043
Lack of internet-ready computers	25 (11.8%)	35 (16.5%)	59 (27.8%)	93 (43.9%)	3.04	1.039
Inaccessibility to available ICT tools	26 (12.2%)	35 (16.4%)	62 (29.1%)	90 (42.3%)	3.01	1.039
Unstable power supply	24 (11.1%)	30 (13.9%)	59 (27.3%)	103 (47.7%)	3.12	1.026
Deficiency in ICT skills	36 (17%)	46 (21.7%)	65 (30.7%)	65 (30.7%)	2.75	1.070
ICT phobia	59 (27.4%)	48 (22.3%)	57 (26.5%)	51 (23.7%)	2.47	1.130
Lack of technical assistance	38 (17.7%)	45 (20.9%)	60 (27.9%)	72 (33.5%)	2.77	1.098
Inadequate training in ICT	32 (14.8%)	32 (14.8%)	66 (30.6%)	86 (39.8%)	2.95	1.069

Table 7 shows the responses as regards the challenges of ICT use by the Registry staff. It shows that 158 (73.1%) of the respondents agreed that inadequate ICT tools is a challenge of ICT use, while 58 (26.8%) disagreed. Also, 151 (69.8%) respondents agreed that obsolete ICT tools is a challenge, while 64 (29.7%) disagreed. As many as 160 (74%) agreed that another challenge to ICT use is inadequacy of ICT consumables, while 55 (25.6%) disagreed.

Moreover, 163 (75.4%), 161 (75.6%) and 162 (75%) respondents agreed that lack of regular maintenance of ICT tools, unreliable internet access, and unstable power supply are challenges encountered with the use of ICT by registry staff in the University of Ibadan, while 53 (24.6%), 52 (24.4%) and 54 (25%) disagreed respectively. Likewise, 132 (61.4%) of the respondents agreed that lack of technical assistance with ICT use is a challenge of ICT use, while 83 (38.6%) disagreed.

Based on these findings presented in Table 7, it can be said that the major challenges encountered in the use of ICT for work by Registry staff in the University of Ibadan include; inadequate ICT tools, obsolete ICT tools, inadequacy of ICT consumables, lack of regular maintenance of ICT tools, unreliable internet access, unstable power supply, lack of technical assistance with ICT use challenges, inadequate training in ICT, among others.

In addition, responses from the interview session revealed similar views. When participants were asked about the challenges of ICT use, the major themes that came up are; “power supply”, “data subscription”, “replacing consumables; tonner, ink, etc.”, “faulty ICT tools”, and “lack of training”. The Nvivo analysis word cloud is presented in Figure 3.



Figure 3: Word Cloud on the Challenges of Using ICT Tools among Registry Staff of the University of Ibadan

Excerpts from the interview transcript that back this finding are presented below.

The main challenge has to do with power supply. Consumables are not easily available. (Male/56 years/Administrative Officer)

There is unstable power supply. There is also the maintenance challenge. There is also a challenge on my part being a beginner myself. (Male/48 years/Executive Officer)

It is this power supply problem. There is internet connection fluctuation. (Female/57 years/Computer Operator)

The major challenge is the epileptic supply. We use a generator many a time as a backup and the generator, due to wear and tear, is also malfunctioning. We don't get

consumables as and when due, only when absolutely compulsory. (Male/37years/Executive Officer)

Also, speaking more specifically on the need for training, one of the respondents stated,

There is no constant training. My ICT skills are not really strong. (Female/57 years/Computer Operator)

The above buttresses the point that the major challenges of ICT use by Registry staff of the University of Ibadan include poor power supply; high cost of data subscription; difficulty in getting consumables such as tonner, ink, etc.; malfunctioning ICT tools; and lack of training.

Discussion of the findings

The findings of the research are discussed in the succeeding paragraphs. The study investigated the availability of ICT among registry staff of the University of Ibadan. Findings from this study show that, to a considerable extent, a good number of ICT tools are available to the registry staff for official work. This is evident as many ICT tools such as desktop computers, laptops, e-mail services, printers, flash drives, word processor, database management software, etc. are said to be available and working. Although, some ICT tools such as tablets, SD cards, external hard drives, video conferencing, cloud drive apps (e.g. Google docs) and radio are said not to be available, it is important to note that many of these unavailable tools appear to be substitutes or more advanced technology to some tools already declared available. Hence, it suffices to say that basic and common ICT tools like desktop computers, printers, Internet, e-mail service, among others, are available to the registry staff. This is not to ignore the fact that some of these tools require upgrade and/or deployment to some departments that are short of them. This finding corroborates the report of Bosu (2019), and the submission of Qureshi and Abro (2016) who reported that developing countries like Nigeria are taking full advantage of ICT in higher education administration.

Moreover, findings revealed that ICT tools are easily accessible to the registry staff for official work in the University. As expressed by majority of respondents, the available ICT tools like desktop computers, laptops, e-mail services, printers, flash drives, word processor, presentation software, database management software and many others are easily accessible. This finding is also in line with that of Bosu (2019). ICT tools declared unavailable include SD cards, external hard drives, video conferencing, cloud drive apps (e.g. Google docs) and radio, and are thus not accessible. The easy access to ICT tools among the registry staff can be connected to the proper implementation of the long standing ICT policy of the University. UI ICT Directorate (2009) stated in the University's ICT policy statement that the University is committed to ensuring that its ICT systems support direct, secure, convenient, and easy access to information, as appropriate. The information should be timely, accurate and usable, and security and controls adequately strengthened using technology without impairing operational efficiency and personnel productivity. Hence, to achieve this policy, the managers of such information must have easy access to ICT tools.

Findings also revealed a high use of ICT tools by Registry staff for official work. Many of the available ICT tools such as desktop computers, e-mail services, printers, flash drive, word processor, presentation software, telephone etc. are used for managing the day-to-day

activities of the University. This finding shows the advancement and progress in the deployment of some basic ICT tools for daily Registry staff activities across department/units in the University, as against the report of Egoeze, Misra, Maskeliūnas and Damaševičius (2018) who submitted that ICT has not made much impact in Nigeria universities on many key administrative services in regard to management of students' records, processing of examination results and online transcripts, staff information administration etc.. The finding, on the other hand, corroborates the finding of Akintunde (2014) who reported that ICT tools needed by administrative staff in the Postgraduate School (now the Postgraduate College) of the University of Ibadan are available and effectively used.

More still, findings revealed that the major challenges encountered in the use of ICT for work among Registry staff of the University of Ibadan include inadequate ICT tools, obsolete ICT tools, inadequacy of ICT consumables, lack of regular maintenance of ICT tools, unreliable internet access, unstable power supply, lack of technical assistance with ICT use challenges, inadequate training in ICT, among others. Some of these challenges can be traced to the nature of the availability of ICT tools as expressed under the availability of ICT tools for Registry staff. It was stressed that many of the available tools are common old ICT tools that require upgrade. Also, while several efforts are being geared towards resolving the power supply issue in many African countries, erratic power supply has remained a constant challenge to the use of ICT. This find corroborates the observation of Ogunode, Babayo, Jegede and Abubakar (2021) who reported that some of the problems preventing the non-academic staff from using ICT effectively in carrying out their functions in the universities include inadequate ICT facilities, the poor ICT literacy level of non-academic staff, unstable power supply, unstable internet service, institutional corruption, high cost of ICT facilities, and poor maintenance culture. The finding is also in line with that Akintunde (2014) who reported in his study that ICT tools needed by administrative staff in the Postgraduate School (now the Postgraduate College) of the University of Ibadan are available and effectively used, except for such challenges as erratic power supply, lack of training in ICT use, lack of competency and old age of ICT tools.

Conclusion, Recommendations and Suggestion for Further Studies

This study has been able to contribute to the body of knowledge by providing evidence-based information about the level of the availability, accessibility and use of ICT facilities, as well as about major factors inhibiting the use of ICT among Registry staff of the University of Ibadan, thereby complementing existing works in the area of ICT acceptance and use research. It has also contributed to knowledge by providing the understanding of how to improve the use of ICT in administrative work processes of the registry of the University. In addition, the study revealed the major challenges encountered in the use of ICT for official work among the registry staff of the University.

This study concludes that the high use of basic ICT tools by the registry staff of the University of Ibadan for official work is not unconnected with the institution's pursuance of her ICT policy. But as the study revealed, there are still gaps to be filled, especially in the area of procuring and deploying new/modern ICT tools and in addressing the various identified challenges encountered by the registry staff in ICT use, towards improved productivity. Based on the findings of this study, the following recommendations are made:

1. The University Management should carry out a massive upgrade of ICT tools being used for official work by Registry staff, from basic to advanced ones across departments and units.
2. The University Management should endeavour to procure and deploy new/modern ICT tools to offices of Registry staff where such tools are said not to be available for official work.
3. The University Management should create an enabling environment that will facilitate and support constant use of ICT tools for official work by Registry staff of the University of Ibadan. This can be done by resolving various challenges inhibiting ICT use among the staff.

Studies can look at the predictors of ICT use for official work among the registry staff at the University of Ibadan; a wider study can be carried out on this same phenomenon to cut across universities – federal, state and privately-owned – within a region in Nigeria towards giving a broader perspective on the issues under investigation, and a comparative analysis on availability, accessibility and use of ICT tools among registry staff of public and private universities can be conducted.

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